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GRADED LESSONS

IN HARMONY

BY

F. H. SHEPARD

(Revised and Prepared by
A. Agnes Shepard and Florian A. Shepard)

Mr. Shepard is the Author of "Harmony Simplified," "Children's Harmony," "How to Modulate," "Piano-Touch and Scales," "Church Music and Choir-Training," "Keyboard Diagram," Etc.

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FRANK H. SHEPARD

BIOGRAPHICAL SKETCH OF FRANK H. SHEPARD

Frank H. Shepard was born in Bethel, Conn., in 1863. At the age of fourteen he invented a machine by which he was enabled to earn the money for a musical education. This invention, simplifying the process of cloth production, was prophetic of his later discoveries in Music.

From 1880 to 1884 he studied organ with Eugene Thayer and others in Boston and New York; did concert organ work at the Great Hopkins (Roosevelt) Organ in Great Barrington, Mass.; organized Boy Choir at Trinity Cathedral, Cleveland.

As a foundation for his original researches, Mr. Shepard enjoyed the instruction of leading American and European teachers, including nearly four years (1885-1889) at the Leipzig Conservatory, under Bruno Zwintscher and Dr. Paul for piano; Homeyer, the Gewandhaus organist; Dr. Jadassohn for harmony, counterpoint, canon and fugue; Herr Gustav Schreck for free composition and form; and Torrsleff for voice.

In 1889 he published *How to Modulate* in which is presented the principle of "Attendant Chords," which gives a deeper insight into the mysteries of Musical Structure, and a working knowledge in more different directions than any other single detail of Musical Theory. Not only does it supply a simple, comprehensive plan for modulation, but it is equally essential in analysis, improvisation, transposition and the understanding of many foreign chords, like those at the beginning of Mendelssohn's "Wedding March," or throughout his "Spring Song." The book also contains the "Principle of Artistic Modulation."

In 1890 appeared *Piano Touch and Scales*, containing probably the first presentation of the principle of relaxation. In the same year came *Church Music and Choir Training*, giving him a standing as an authority upon the training of the boy voice and management of boy choirs.

In 1891 *The Shepard School of Music* was established at Orange, N.J. The large three manual concert pipe organ (Hutchings), now in the Recital Hall, was erected chiefly by Mr. Shepard's own hands and completed in December, 1912.

In 1896 *Harmony Simplified* was published. Presenting so much that was new, both in principle and practice, this book was a most daring venture; the positions taken in the book proved unassailable, no word of opposition ever reaching its author; and its unprecedented sale among modern works of its class is significant of popular approval. Mr. Shepard has made several valuable contributions to the science and pedagogy of musical theory, contributions in the line of simplification and systematic grouping. One, of the highest importance to students, is his grouping of the seven most difficult chords of music in one class, showing how they are all forms of one and the same chord principle. By this method even the chords of the Augmented Sixth, which have always been a bone of contention among authorities on composition, become absolutely simple both to form and to recognize. To understand the inner meaning and qualities of the chord of the Dominant Seventh, which Mr. Shepard shows as a foundation principle, leads directly to the understanding of the structure and use of the more complicated forms, such as the Diminished Seventh, Dominant Ninth and the three forms of the Augmented Sixth chord. The principle involved, though simple, is practically universal in its application.

In 1899 appeared the *Keyboard Diagram*.

In 1901 Mr. Shepard began teaching *Harmony by Correspondence*.

1906 saw the formal launching of the *Shepard Piano System by Mail*. The finding of the power of mental vitalization, the rapid unfoldment of other principles from this, and the crystallization into a distinctive system, make it worthy of a distinctive name. As evidenced by the spontaneous expressions of students from all parts of the world, the Shepard Piano System is a new force in music study and teaching.

Many of the advances made in the piano work are of the deepest significance, and when collected and applied in a logical, comprehensive system they form an epoch-making event in the development of the science of piano teaching and study. To Mr. Shepard's mind the work he accomplished in Harmony had not one-tenth of the value possessed by his piano work, which was the result of twenty years of search and study, of experiment and discovery; and this, together with his promul-

gation of so many distinctive, diverse and important advances, made him many grateful and warm friends all over the world.

The years 1907-9 were partly devoted to the planning and partial writing of books on *Ear-training*, *Sight Singing* and *Transposition*.

In 1908 *A Key to Harmony Simplified and a Classroom Manual* was published. This was the result of long years of experience in the teaching of classes and individuals, and is in large measure a systematic compilation of personal notes to pupils, together with the best solutions (and explanations) of the exercises assigned in *Harmony Simplified*.

During the last years of his life, and especially after the publication of the *Key*, until his death in February, 1913, Mr. Shepard devoted his best time and attention to the completion of the *Shepard Piano System*. This work, considered by its author as by far his greatest achievement, was given permanent form in the shape of a *Correspondence Normal Course*—a form such that it may be easily imparted and spread among all earnest musicians. By an almost superhuman effort just before his death, Mr. Shepard gave to this Piano Normal Course its finishing touches; and the nearly simultaneous completion of this system and of the home organ, the one a symbol of his work, the other of his play—for mechanics fascinated him as intensely as music inspired him—formed the culmination of a life devoted to simplifying and broadening musical principles and to stimulating musical ideals.

PREFACE

Mr. Frank H. Shepard, as teacher and pedagogue, received such enthusiastic commendations and spontaneous expressions of help and delight from those pursuing his Correspondence Harmony Course, that it seems imperative to present these lessons, together with his personal notes and suggestions, in book form. To those who know *Harmony Simplified* it is hardly necessary to say *simplicity, thoroughness* and *practical application* characterize the contents of the lessons contained in this volume.

The first lessons reveal the "*Laws of Relationship*," the real foundation of musical structure and the source of the "*rules*." Part-writing becomes absorbingly interesting, because principles are used instead of rules. The Keyboard Drill is unique and of great help to piano teachers and students, as is the Ear-training.

These lessons are designed to help teachers to teach Harmony in a simple and practical manner, having fully as much reference to the needs of the performer as to those of the composer. It provides the teacher with delightful material for class talks, lectures and scientific presentation of the subject in a logical manner.

This work supplies a new and vital element in musical culture. It is not Harmony study alone, as generally understood, for it differs in many respects. Some of its unique features are:

(1) *Keyboard Work.* In order to make the work practical for teachers and performers, much attention is given to the formation and use at the keyboard, of the various Intervals, Chords, Cadences and other progressions including also Improvising, Modulating and Transposing. With the aid of the Keyboard Diagram this also becomes possible in Harmony class work.

(2) *The Replacing of the Numberless Rules for Part-writing by a few broad principles, which explain both rules and exceptions.*

(3) *The Classification of the Chords* of the Dominant Seventh, Major and Minor Ninth, Diminished Seventh and the three forms of the Augmented Sixth, as ONLY SLIGHTLY DIFFERING FORMS OF ONE AND THE SAME HARMONY, simplifying wonderfully these more complicated chords.

(4) "*The Principle of Tendencies*," which explains many of the perplexing things in Musical Theory, and simplifies the subject wonderfully.

(5) *The "Attendant Chords,"* which make many foreign harmonies clear.

(6) *Modulation*, presented in a very simple and practical form.

(7) *Studies in Analysis and Ear-training*, with hints on Improvising.

(8) *The Knowledge of the Underlying Principles of Acoustics, Musical Structure and Tone Relations*, which explain most of the mysterious things about which many trained musicians are unenlightened.

(9) *The Use of the "Sharpest Note"* as a means of analyzing foreign chords, which is a revelation to most musicians.

The earnest student will find that the faithful study of these lessons will build a practical musicianship; will give the power to *do things* at the keyboard; to *hear* and to *think* music; to *analyze*, to *modulate* and to *improvise*. The study should not only teach him much that he wishes to know, but should broaden him mentally and musically. This work goes right to the *heart of music*.

I take pleasure in acknowledging my indebtedness in this work to a number of friends: in particular, to Mr. Isaac H. Blanchard, my constant counsellor, for courtesies, personal and professional, in aid of my labor now ended; and to numerous correspondence pupils of Mr. Shepard and myself, who by their deep interest and thoughtful questions have stimulated further thought and have pointed out opportunities for the clearer expression of ideas already formulated. For much time and care

spent in revising manuscripts, verifying references and footnotes, and correcting proof sheets of the present work, as well as for valuable suggestions during its preparation, I am grateful beyond my power of expression to Miss Violet L. Jacquin, whose personal connection with Mr. Shepard for more than eight years has rendered her sympathetic cooperation invaluable.

A. AGNES SHEPARD (MRS. F. H.),
Director of Shepard School of Music,
Orange, N.J.

September, 1914.

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Remarks and Suggestions

The plan of this work is to carry on simultaneously several different lines of training, to secure not only a knowledge of Harmony, but also of other related subjects, insuring a broad and useful culture in Music. Included in the course are: (1) Constructive work at the keyboard, which is the *most helpful training ever devised for the practical musician*; (2) Harmony study proper, but with Principles substituted for Arbitrary Rules, and many new practical features; (3) Analysis; (4) Ear-training; (5) Part-writing and Composition.

In the preparation of each lesson the student should thoughtfully study the matter assigned, writing down every question or observation that may occur. He will then do the exercises, many of which may be done at keyboard. In some lessons will be found a series of test questions to be answered in writing. These answers, with the written exercises and the record of the keyboard exercises, together with incidental questions, might constitute a recitation. This lesson should be corrected, further test questions given to cover any weak points revealed by the recitation, and the advance lesson assigned.

Each lesson is designed to take from three to five hours in preparation, including the Keyboard Drill and Ear-training. Do not consider a lesson complete when you have answered the questions and studied the subject matter. Fully *one-half* of the time should be spent on keyboard and other drill.

Systematic work is essential to real success.

Remember that in all this work the underlying thought and the principles involved are of the first importance. Many students think they have the whole matter when they have written the exercises (without thought), or have answered the questions without realizing the relationship to the foundation principles.

Facility in *doing* is just as necessary as knowledge. The exercises are designed to give this facility and to teach you to think musically either at the keyboard or away from it.

Courage! Always approach your study with the thought, *I will*, not *I wish I could*.

“Untwisting all the chains that tie
The hidden soul of Harmony.”

—MILTON.

THE SHEPARD GRADED LESSONS IN HARMONY

NOTE: Those using this volume* in teaching or for self-instruction will find it necessary to have a copy of *Harmony Simplified*** and one of *A Key to Harmony Simplified* and *a Classroom Manual**** by F. H. Shepard.

LESSON I

MOTTO—*Not only Knowledge, but also Facility is to be attained.*

Let these Two Points control your study.

SCALES

The Major Scale As a Principle.

1. STUDY.

Read daily for one week *Harmony Simplified*, §§1-35, 45. Also, Collateral Reading and Suggestive Notes §12.

2. KEYBOARD EXERCISES.

(1) Form Half-steps and Whole-steps from any and every note, as described in *H. S.*, §1. N.B.—In teaching

* Paragraphs in *The Shepard Graded Lessons in Harmony* are referred to as *§*—.

** Paragraphs in *Harmony Simplified* are referred to as *H.S.*, *§*—.

*** *Key* —, refers to sections in *A Key to Harmony Simplified* and *a Classroom Manual*.

children, this point should receive ample drill *before* constructing the scales.

(2) Learn to *number* the degrees of any scale. (*H. S.*, §§ 2-6.)

(3) Form the scales G, D, A, E, B, F-sharp and C-sharp, numbering the degrees as you touch the corresponding keys, and observing the steps and half-steps. Note any difficulties. If you are not sure of the notes, you may *write* the scales *before* playing them.

(4) Form similarly the double-sharp scales. (See *H. S.*, §7.)

(5) Form similarly the scales in flats. (See *H. S.*, §8.)

(6) Form similarly the double-flat scales. (See *H. S.*, §9.).

3. SPECIAL NOTE.

For this first lesson it is more important to find the principles involved—to discover the inner meaning of the scale relations—than to have a recitation that is perfect. Sometimes pupils think that this lesson is so easy that it is simply something to be “gotten over with” as soon as possible, and they are surprised enough to discover the true beauty and the deep principles involved. The chief point of the lesson is, then, not the correct writing of the scales, but the *discovery of the underlying thought*.

4. WRITTEN EXERCISES.

(1) Following the pattern shown in Fig. 5 of *H. S.*, drawing the line from 5 down to 1 of the next scale, write the above named Major scales. N.B.—At the end of each scale, and on the same staff, draw a double bar and then write the signature, *taking it from the scale* as shown in *H. S.*, §12.

5. RECITATION.

(Recite to yourself or to a friend.)

(1) Without seeing a keyboard, test as to the steps and half-steps above and below any and every note.

(2) Recite the notes of the scale; that is, taking any given scale, simply name the notes as they occur, not forgetting the sharps or flats. If unfamiliar with the

scales you may follow the wording shown in *H. S.*, §4; but if able, you need simply mention the notes alone. For example, the notes of the scale of B are B, C-sharp, D-sharp, E, F-sharp, G-sharp, A-sharp, B. If not too difficult for you, let this exercise include the double-sharp and double-flat scales. Use the metronome to test the speed you attain, naming one note to each beat.

6. EAR-TRAINING.

Read *H. S.*, §§47-50. See also the special Ear-training Exercises, §11.

(1) Try to sing (or hum or whistle) half and whole steps above and below given notes upon the piano. Prove by playing the note *after* singing it.

(2) Practice 1-5 of the *Ear-training Exercises*.
N.B.—Ear-training is not obligatory, but of extreme value, and is recommended.

7. QUESTIONS.*

Commence to write the answers after a day or two of study.

NOTE. Advanced students, if they feel quite sure they have nothing to learn about scale-writing or key-relationships, need write only two scales each, in sharps, flats, double-sharps and double-flats. Even if they understand the matter themselves, they may gain a point about how to teach others.

- (1) Where are the half-steps in the Major scale?
- (2) State two or three foundation principles covering its construction.
- (3) For what are sharps used?† Also double-sharps?
- (4) How many *kinds* of Major scales are there, and why?
- (5) For what are flats and double-flats used?†
- (6) What is a signature?† Give its origin.†
- (7) State the order of sharps in the signature; of flats.

* For best results write original answers to these questions before reading those given below.

† But few reach the underlying thought in these questions.

(8) Describe Tetrachords and their office in the order of keys.*

(9) Give the order of scales with sharps; also with flats.

(10) What is the difference between a scale and a key?[†]

8. ANSWERS.

(1) The half-steps in the Major scale are from 3 to 4 and from 7 to 8. This is a law, because it represents a fixed relationship. A short formula for scale-construction is: "The half-steps are from 3 to 4 and from 7 to 8. All other steps are whole-steps." Let your pupils *memorize* this.

(2) (I) Do not write two notes upon the same degree of the staff. (II) Do not skip any letter. In other words, the letters must be used consecutively, else it is not a scale. See *H. S.*, §5.

(3) When we look deeply for the real principles, we see that sharps and flats (also double-sharps and double-flats) are used *primarily* and *originally* to make the scales alike or to represent *THE* scale, i.e., the *scale principle*, at any and all pitches.

(4) There is ONLY ONE KIND of Major scale, since the different so-called scales are merely duplicates of the *one scale principle* at different pitches, that is, in different keys. Many people think that the scale of Ab is a different kind of scale from the scale of D, for example; but a melody, or musical thought, can be represented just as well in one as in the other.

(5) For the same reason as with sharps—to make the scales alike; or to represent the one Major scale principle.

(6) This question is more frequently missed than almost any other, for but few see the *connection between the scale and the signature*. The answer is: "A signature is the *collected sharps or flats used in forming the scale*. Its source is *in the scale or in its uniform construction*." Signatures come *from the scale*—not vice versa. See how the scale and its relationships are the true foundation, not only of music, but of its *notation* as well. Also see this point later in the notation of *chords*.

(7) The order of sharps is: F#, C#, G#, D#, A#, E#, B#.

* But few reach the underlying thought in these questions.

† These questions are designed to stimulate original thought.

The order of flats is: B_b, E_b, A_b, D_b, G_b C_b, F_b.

Observe that one is the exact reverse of the other, and tell why, if you can.

(8) Tetrachords are scales of four tones which come from an old Greek form. They might be described in our notation as *half-scales*, since we find in each Major scale two Tetrachords, one placed above the other. Their office in the order of keys is most important, as they explain some of the most important matters in related keys and in musical form. As each key or scale is related through its two Tetrachords to the scale having one *more* sharp, on the one hand, and to the scale having one *less* sharp, on the other hand, we have at once the familiar group of the three keys called the Tonic, Dominant and Sub-dominant.

(9) The order of scales with sharps is G, D, A, E, B, F_#, C_#.

The order of scales with flats is F, B_b, E_b, A_b, D_b, G_b, C_b. Can you repeat the above quickly, and state the number of sharps or flats in each key?

(10) The "scale" implies the *regular succession* of the 7 (or 8) tones; while "key" implies the *same relationships*, but with no particular order required. In both scale and key notice that *relationship of tones is implied*, or the choice of tones having *fixed relations* to each other. Remember that relationship is the great foundation of music and the original source of all its laws. (Think deeply on this last statement.)

9. NOTE ABOUT DOUBLE-SHARPS AND DOUBLE-FLATS IN THE SIGNATURE.

It is not customary to use double-flats or double-sharps in the signature, although I do not recognize any reason why they *could* not be used. At present it seems to be the idea to express the key in the most simple manner; other than this, I see no reason why the double-sharps or double-flats should not be used in the signature.

When a key expressed by double-sharps or double-flats is required in a composition, it is expressed by means of accidentals; and some composers, after writing a few measures with the accidentals required, make an enharmonic change into the simpler form. For example, if the required key is that of D_#, which will contain two double-sharps, the composer will probably (after modulating to that key) write two or three measures in that key of D_#, using the proper accidentals; after which he will draw a

double bar and write the signature of E \flat , which is the simpler form, and continue in the key of E \flat . By first writing a few measures in the key of D \sharp he recognizes the true relationships of the keys, and having done this, he continues in the notation which is easier for the performer.

10. HOW TO WRITE THE SCALES.

The scale should show: first, the skeleton, that is, the figures; second, the half-steps, by the curved line between 3 and 4, and 7 and 8 (also by the curved line between the notes indicated by these figures); third, the tetrachords, by means of the larger curved line as shown below; fourth, the logical growth of the signature, by writing it after the scale instead of at the beginning of the line; fifth, the relationship between the successive scales, by a line drawn from the fifth down to the Tonic of the next scale.

To show all these points, but one scale should be written on a line. You will find this much better for reference, and it will be of great help to you in teaching the scales.

FIG. I.



Ear-Training.

11. (Read carefully *H. S.*, §§47-52.) This work is a matter of *Growth*—not of rote learning. If you are deficient in musical hearing, or have never given attention to the subject, it will open a new world of pleasure, and will become a new avenue of acquisition as well.

First establish the feeling for tonality or tone relations, through the ability to sing (and recognize) the tones of the scale and chord. These two elements—the scale and the chord—are the foundation of all music. They are given in the lines a) and b) of the *Ear-training Exercises*.

Next, take up a few of the simpler exercises—not more than six—and work them every day for several weeks before expecting them to be well done. Do not hurry:

you will gain most by sticking to the scale and chord for a long time—several months at least, in many cases. Above all, do not be discouraged if you do not succeed at the first attempt.

Especially, listen intelligently, not only to music that is performed, but also to every tone you play or sing, and with this listening will presently come a new perception of music.

This work is to be done *without* the aid of an instrument. Take *any* convenient tone for "Doh." (For the first few days it is allowable to test the voice, by touching the piano *after* the tone or interval has been sung, and while still sounding.)

After the first six exercises, and when the scale and chord have been fairly accurate (though not necessarily in their "absolute pitch"*) and are easily executed, it is time to commence to add the other exercises gradually, one, two or more each week, as the case may require. *But* do not drop the scale and chord or the simpler exercises until the feeling of the tonal relationships is established, nor before you can both sing and recognize them when given by another person.

Do Not Hurry This Work. Give it Time to "Grow."

EXERCISES.

- a) DOH RAY ME FAH SOH LAH TE DOH¹. DOH¹ TE
LAH SOH FAH ME RAY DOH.
- b) DOH ME SOH DOH¹ SOH ME DOH.

Take breath at all commas.

- (1) DOH ME SOH, DOH ME SOH ME DOH ME SOH DOH¹.
- (2) DOH DOH¹ DOH ME SOH DOH¹ SOH ME DOH.
- (3) DOH RAY ME, DOH ME, DOH ME RAY DOH, ME
DOH.

* To help you to get Absolute Pitch, when you enter a room where there is a piano, try to sing Middle C or some other convenient tone. Then strike it upon the piano for comparison and correction. You will be pleased to see how after a short time you will be able to sing very close to the right pitch. The drill can be continued by using other tones as well as C. This makes one critical and thoughtful along these lines.

The Scale

f¹m¹r¹DOH¹

TE

ta le

LAH

la se se

SOH

sa ba fe

FAH

ME

ma re

RAY

ra de

DOH

t₁l₁s₁

(4) Doh RAY Me FAH, Doh FAH, Doh FAH Me RAY Doh.
 (5) Doh Me SOH, Doh SOH, Doh SOH FAH Me RAY Doh.
 (6) Doh Me SOH LAH, Doh LAH, Doh LAH, Te Doh¹.
 (7) Doh LAH.
 (8) Doh¹ LAH.
 (9) Doh FAH, Doh LAH, Doh FAH LAH Doh¹ LAH FAH Doh.
 (10) Doh RAY Me FAH SOH LAH TE, Doh Te, Doh Te Doh¹ Te Doh¹ Doh.
 (11) Doh Doh¹ Te Doh¹, Doh Te Doh¹ Te Doh¹, Doh Te Doh¹ SOH Me Doh.
 (12) Doh Me FAH, Doh Me FAH, Doh Me Doh FAH Doh Me Doh FAH.
 (13) Doh Me SOH Doh¹ SOH Me Doh FAH LAH Doh¹ LAH FAH Doh.
 (Repeat.)
 (14) Doh RAY Doh Me Doh FAH Doh SOH Doh LAH Doh Te Doh Doh¹.
 (15) Doh¹ Te Doh¹ LAH Doh¹ SOH Doh¹ FAH Doh¹ Me Doh¹ RAY Doh¹ Doh.
 (16) Doh Te, Doh RAY Me Doh Te, RAY Doh Me SOH Te, Doh.
 (17) Doh SOH Me Doh¹ SOH Doh Me SOH Doh¹ Me RAY Doh.
 (18) Doh¹ Te LAH, Doh¹ LAH Doh¹ LAH SOH FAH SOH LAH FAH RAY SOH Doh.
 Take a lower pitch if necessary.
 (19) Doh¹ RAY¹ ME¹ RAY¹ Doh¹ SOH Doh¹ ME¹ RAY¹ Doh¹ SOH¹ FAH¹ ME¹ RAY¹ Doh¹.
 (20) Doh¹ ME¹ RAY¹ FAH¹ ME¹ SOH¹ FAH¹ RAY¹ TE RAY¹ Doh¹.
 (21) Doh¹ SOH LAH TE Doh¹ SOH ME¹ Doh¹ SOH¹ SOH Doh¹.

COLLATERAL READING AND SUGGESTIVE NOTES.*

12. (1) The key to unlock the secrets of Nature, as manifested in any art or science, is the study of *relationships*. Mathematics is the science of the relationship of numbers; astronomy, that of the relations of different heavenly bodies. Harmony should then be, though it has not been so to any marked degree, the science of *tone relationship*. It is my purpose to take the simpler manifestations of Nature for examination in this regard, and to draw such deductions from them as will be helpful in later study. It is presumed that the construction of the Major scale is familiar; but the study of the scale in respect to relationships will reveal principles which reach to the uttermost bounds of the structure and form of music.

SCALE CONSTRUCTION.

(2) Statement. The scale of Nature and of Science is the Major scale, the Minor scale being considered an artificial, derivative scale, since it is formed from the Major scale. The Major scale will therefore form the basis of the present investigation.

(3) Statement. A Major scale is formed by a succession of eight tones (technically, by a succession of seconds). Between the third and fourth degrees and between the seventh and eighth degrees are half-steps; between all other degrees are whole-steps. For illustration, play the scale of C Major.

(4) Statement. This is the rule for the formation of any Major scale. Briefly expressed for memorizing it is: "Between 3 and 4, and between 7 and 8 are half-steps; all others are whole-steps."

(5) Deduction. Since the steps and half-steps fall at the (correspondingly) same places, all Major scales must be alike. More scientifically expressed, there is *but one Major scale*, which appears in different notations for convenience.

* For further notes, drills, exercises, topics for discussion, ear-training, questions and answers, the student is referred to *A Key to Harmony Simplified and a Classroom Manual*, by F. H. Shepard. This book will be referred to as the *Key* hereafter.

(6) Deduction. Since the different scales or keys are merely duplicates of a single type or scale form, all chords and chord relations appearing in one key may be duplicated with similar effect in any other key. In other words, as the scales are alike, so the chords and their relationships in all Major keys must be alike. This fact is of much value in the study of harmony, since in effect, we need only to learn the structure and use of the chords of one key in order to know the principles obtaining in all keys. The foundation principles of harmony are few and simple. The great need is to recognize and apply them in a practical manner.

LESSON 2.

MOTTO—*Facility is as necessary as knowledge.*

SCALES (Cont.)

The Major Scale (Cont.)

13. SCALE DEGREES AND SPECIFIC NAMES.

Study *H.S.*, §§33, 34 together. Try to find out why this subject is important.

14. DRILL.

(As per the exercises in *H. S.*, §§33, 34.)

Taking two or three keys each day, drill thoroughly, both at the keyboard—touching the proper key as its number or specific name is mentioned—and by recitation away from the keyboard.

Continue this exercise till facility is gained in all Major keys. Probably several weeks' daily drill will be necessary.

15. IMPORTANT NOTE.

Although familiar with the scales in the way of performing them with speed and accuracy, *but few know the scales* in the manner here required, which is most important, as it leads to the understanding of many important matters. It is really the basis of speed in selecting chords, in harmonizing a melody or in improvising. Here especially, we must have not only knowledge but *facility*.

Following the idea expressed in *H. S.*, §§33, 34, take each scale in turn and play successively the notes forming the Tonic, then the Sub-dominant and then the Dominant. It is a good plan to let the fingers rest upon three keys (the Tonic, Sub-dominant and Dominant notes) *together*—not necessarily sounding them—that the mind may take them in as a group, representing the most prominent features of each key.

Be prepared to give this exercise daily drill for several weeks.

16. EAR-TRAINING.

You are supposed to know the syllable names of the tones—Doh, Ray, Me, Fah, Soh, Lah, Te (or Se), Doh. It will help you in listening, to associate the following descriptive names with the scale* tones.

Doh is called the Firm Tone.

Ray is called the Rising Tone. (To illustrate, play Doh, Ray, then pause.)

Me is called the Calm Tone. (Play Doh, Ray Me; or Soh, Fah Me.)

Fah is called the Drooping Tone. (Play Ray, Me, Fah; or Me, Fah, Me.)

Soh is called the Bright Tone. (Play Doh, Soh, Doh, Soh; or any of the military and cavalry calls.)

Lah is called the Sad Tone. (Play [high] Doh, Te, Lah; or remember how the Minor scale is formed, starting upon the sixth step—or Lah—of the Major scale.)

Te is called the Leading, or Rising, or Piercing Tone. (Play up the scale to Te and pause, when the urgent demand will be felt to go on to the eighth step.)

17. EXERCISE.

Play or sing the scale slowly, and try to hear and feel these qualities in the different tones.

NOTE. The great importance of this principle will be apparent in the selection of the proper scale tones to express any given sentiment or mood. For example, it would not be right to emphasize the sixth step, or Lah, in a bright or martial composition. THIS COMES CLOSE TO THE HEART OF MUSIC.

The appreciation of the above will help you to sing correctly the *Ear-training Exercises* in §11. Carry this point into your future practice.

*If you are associating the Ear-training with the key of C exclusively and thinking letter names chiefly, you will make a serious mistake. Be careful to use the syllable names and to "think" by syllables and by figures (1-3, 1-6, etc.) in connection with the thought of the letter names. Remember that letter names (C, G, etc.) express no relationships whatever, although some musicians who are fortunate unconsciously feel and associate relationships with the letter names—by ear, as it were: but the use of the syllables and figures forces the recognition of relationship of tones, and gives constant suggestion of the relative position of each tone in the scale, which is a vitally important feature.

The Minor Scales.

MOTTO—*The basis of all music is the scale. When you understand all that is involved in scale relationships, you will have a solid foundation for your theoretical studies.*

18. STUDY.

Read and study *H. S.*, §§35-42, 46; also *Key*, 35-42, 46.

WRITTEN EXERCISES.

- (a) Write the exercises in *H. S.*, §38.
- (b) Write the Melodic Minor scales, following the order shown in *H. S.*, §38. (For illustration, see *H. S.*, Fig. 16.)
- (c) Write the scale of G Major. Then change it to the Harmonic Minor form, by altering the proper notes by accidentals. (N.B. To save writing the scale twice, you may enclose these accidentals in parentheses.)
- (d) Repeat (c) with four other scales.
- (e) Write the scale of A Major. Then change it to the Melodic Minor form, by using accidentals as above.
- (f) Repeat (e) with four other scales.

KEYBOARD EXERCISES.

- (a) Remembering the rule for placing the steps and half-steps, form all the Harmonic Minor scales, following the order of signatures; i.e., A Minor, E Minor, B Minor, etc.
- (b) Form the same scales in the Melodic Minor form. Play the above once each day for one week.

Relative Minor and Relative Major.

19. WRITTEN EXERCISES.

Write as required in *H. S.*, §§39, 40.

RECITATION.

Recite (to yourself or to a friend) the above exercises.

Signatures in the Minor.**20. STUDY H. S., §§41 and 46.****WRITTEN EXERCISES.**

- (a) Write the exercises in *H. S.*, §41.
- (b) Write the exercises in *H. S.*, §42.

21. To Distinguish Major and Minor in Printed Music.

Any given signature may indicate either a Major key or its Relative Minor key. To discover which is intended, look for the note which would be the fifth degree (Dominant) of the Major key. If this note is raised by an accidental, the key is the *Minor*. **If unchanged**, it is *Major*. The reason for this is that it is this note which is raised to make the leading tone in the Minor scale.

EXERCISES.

Examine Sonatas and other classical music, for examples of Minor keys.

22. EAR-TRAINING.

(a) Playing slowly and thoughtfully, contrast Major, Harmonic Minor and Melodic Minor forms of the same scale. Note the "color" or general tonal effect of each form.

(b) Observe the effect of melodies written in the Minor mode, and contrast them with Major melodies.

(c) Try to distinguish whether the compositions you may hear are in the Major or Minor mode. Listen carefully.

23. QUESTIONS.

- (1) How is the Relative Minor formed?
- (2) Where are the half-steps in the Harmonic Minor scale?
- (3) What is the difference between the Harmonic and the Melodic Minor?
- (4) Name the keys related to G Major and give reason therefore.

- (5) How would you discover a key from the signature in sharps or flats?
- (6) What is the signature of any Minor key?
- (7) What is the office of the half-step in scale construction?
- (8) Why is there an accidental in every Harmonic Minor scale?
- (9) Why does not this accidental appear in the signature? (See answer below, §24.)
- (10) Was it there originally?
- (11) How would you change a Major scale to an Harmonic Minor scale of the same letter name (*Tonic Minor*)?
- (12) How would you change an Harmonic scale to the Major scale of the same name?
- (13) Name the Dominant and Sub-dominant in all Major and Minor keys.
- (14) What do you understand by the term "Tonality"? How is it developed and how does it differ from the term "Key"? (Read *Key*, (16) p. 12, after forming your answer to this question.)

24. ANSWER TO QUESTION 9.

The accidental change to make a leading tone in the Minor scale is not shown in the signature because:

- (a) It is not inherited from scale to scale; for example, G \sharp , leading tone in the scale of A Minor, becomes G \natural —the sharp is not inherited—in the next scale, that of E Minor.
- (b) Careful examination of this and other points (such as the Melodic and Harmonic tendencies, and the fact that the Minor scales appear in several different forms,) indicates clearly to my mind that the Minor scale is not a *true, nature* scale, but is an artificial or man-made scale. Further, that from the Minor scale we find no such great principles of *relationship* as can be deduced from the study of the Major scale.

So, in considering signatures, instead of letting each Minor scale inherit the sharps of the preceding scale, we carry along constantly the fact that the Minor scale is chiefly a *re-arrangement of the resting points* of the Major

scale (that is, beginning and ending upon *six* of the scale instead of upon *one*), and that the signature should be constantly considered as having been evolved from the *Relative Major*. We like to think that the Minor scale has no real foundation of its own, either Melodically, Harmonically or in its relationships, and therefore its signatures are merely derived from the Major scale and not inherent in the Minor scale itself.

25. THE OFFICE OF THE HALF-STEP.

(1) The half-steps by their location determine the quality, or color, or individuality, of the scale. For example, in the Major scale they fall at 3—4 and 7—8, but when their position is changed to 2—3 and 5—6 a certain kind of Minor scale is developed. Observe that the Minor scale is produced by changing the location of the half-steps. When to the above mentioned Minor scale another half-step is added by accidentally raising the seventh degree, the Harmonic Minor scale is formed.

Examination of the old Dorian, Phrygian, Lydian and other ancient *modes* (so called) will show how the difference between these modes resulted entirely from the differing locations of the half-step in the scale. (N.B. To represent the Dorian Mode upon the piano, play upon the white keys exclusively from D to the D one octave above. The Phrygian is represented by playing upon the white keys, from E to the E above, etc. Observe how the Dorian has the half-step at 2—3 and 6—7, while in the Phrygian they are at 1—2 and 5—6.)

Now, if you will consider the Special Note on "Individuality of the Scale Degree and Principle of Melodic Tendencies," §26, you will see how the character of any scale tone must depend upon its relative distance from its neighboring tones above and below, and therefore how the half-step has great power in giving quality to the scale.

The point is further illustrated by the upward tendency of the Leading Tone of the scale (see *H. S.*, §152), and by the change in the effect of individual scale tones when they are accidentally raised or lowered to effect a modulation. (This may be frequently observed in the raising of the fourth degree to modulate to the key of the Dominant, and in the lowering of the seventh degree

to modulate to the key of the Sub-dominant. These changes are often found in hymn tunes, to which the student is referred.)

The Chromatic scale also illustrates the principle, for by the *absence of variety or contrast* in the distances between the scale tones, no single tone differs in power or quality from the others, and therefore the scale seems to have no special place of beginning or of ending unless such place is indicated by the rhythm or accompanying chords. (See below Special Note on the Scale Tendencies.)

(2) The coincidence of the melodic tendencies and the locations of the half-steps in the scale has an important bearing upon the "Office of the Half-step," when considered in connection with the thought that the quality of each scale tone depends upon its relative nearness to its neighbors, and that by changing this relative nearness—by changing the places of the half-steps in the scale—we can change the quality of any given scale tone and so change the quality of the whole scale. For example, by lowering the third degree of a Major scale the upward form of the Melodic Minor scale is formed. Or if the fourth degree of a Major scale is raised a half-step, a completely new scale, that of the Dominant, is formed.

(3) Another rich suggestion may be found in the fact that whole chords may be changed, as from Major to Minor, etc., by changing a single note by a half-step. For example, C-E-G is the triad of C Major, while C-E_b-G is the triad of C Minor.

The above thoughts illustrate some of the powers of the half-step. The subject, though possibly somewhat indefinite at first, will grow upon the mind as advancement is made in the study. Occasional review should be made of this and other foundation principles.

26. INDIVIDUALITY OF SCALE DEGREES. PRINCIPLE OF MELODIC TENDENCIES.

See also *II. S.*, §152 *et seq.*

See also *Collateral Reading*, Lesson 4, §39, (13)-(14).

The effect of a scale is found by considering several tones in succession, or *in relation to each other*, not by thinking of tones isolated one from the other. Each tone of the scale may therefore be considered as lying between

two other tones, that is, between the tone next above and the one next below (e.g., in the scale of C, the note D lies between C and E). Now if a tone is nearer to its neighbor on one side than on the other, it is found to have a tendency to progress to that nearer neighbor rather than to the other, and this is called *melodic tendency*. To illustrate, in the scale of C Major, E is nearer to F than to D, therefore it tends toward F rather than toward D. If, however, the neighboring tones are equally distant the tone is free to progress in either direction. For example, in the same scale A is equally distant from G on the one side and from B on the other. A is therefore a *free neutral* and *not a tendency note*.

It should be observed that the above theory, while differing in substance from that given in *H. S.*, reaches the same result, viz., that the *tendency notes of the scale are found where the half-steps occur*.

A slightly different theory is advanced by Goetschius, as follows: The Tonic chord (for example C-E-G-C in the key of C) represents the chief *points of rest* in the scale and key. These notes may also be called "inactive" notes, and the other tones of the scale, because each tends toward one of these points of rest, are called "active" or tendency tones. The active tones tend always toward the *nearest* point of rest. In results this theory corresponds with the other except in the case of the sixth degree of the scale, which is classed as an "active" tone, as it is nearer to the fifth degree of the scale than to the eighth. The theory advanced by Goetschius applies particularly to the treatment of *melodies* while the other applies directly to *harmonic progressions*.

By carefully comparing these three slightly differing theories, we trust you will gain a real insight into this matter, which is one of the most important underlying principles of musical theory, explaining in thousands of cases the reasons of ineffective and unmusical progressions.

SPECIAL NOTE I.* About Tendency Tones, Active Tones and Resting Tones. If we think of the two tetrachords in the scale, it is easy to conceive of the third degree as a Leading Tone to 4 just as 7 is the Leading Tone to 8. This upward tendency of the third degree appears when we modulate to the key of the Sub-dominant.

* From lessons to pupils, 1913.

But: the restful quality of the Resting Tones (1, 3, 5, and 8) is *most important*, and more constantly in evidence; and the activity of 3 is *not* evident unless we modulate or manage the progressions rhythmically so as to come to a stop on the Sub-dominant chord. Therefore I do not emphasize the upward tendency of 3, although it is scientifically correct, perhaps. I now think it more practical to call 3 a Resting Tone and ignore the tendency; so please forget, until later, that 3 tends up to the fourth.

This point is about the only thing in *Harmony Simplified* that I would like to change.

SPECIAL NOTE II.* About the Tendency of the Third Degree of the Scale. When we consider the tetrachords separately, we see that the third degree is to the fourth degree (constructively) just what the seventh degree is to the eighth degree. Consequently it is not difficult to recognize in the third degree a sort of leading tone to the fourth degree. In fact this becomes apparent as soon as we modulate to the key of the Sub-dominant: hence the statement of the upward tendency on the part of the third degree. This I was taught by Eugene Thayer, a great philosopher as well as musician. But at that time I knew nothing of the Resting and Active Tones of the scale, and all that they mean in music. I now prefer to frankly abandon the thought of a tendency on the part of the third degree, since to make it effective we have to depart from the key, to a certain extent at least. The classification and consideration of a tendency of the third degree are unnecessary to the understanding of the fundamental dissonant chords (Dom. Sevenths, Dim. Sevenths, Aug. Sixths, etc.); and there is so much to be gained by taking the third as a resting point in the scale as explained in the *Key to Harmony Simplified*, page 8, §48, that we will simply ignore this tendency as a far-fetched and disturbing element which we will eliminate from our work, for the present.

(This point is about the only thing in *Harmony Simplified* that I would like to change.)

SPECIAL NOTE III. We get perhaps *most of the tendency feeling* unconsciously through long association with chords. For example, nine out of ten pupils have never felt or thought of tendencies—or at least have not mentally recognized them. So in the Minor we have less feeling for tendency between II and III, or V and VI, since the chords do not emphasize the feeling: I would recognize only *very slight* melodic tendencies in the Minor at these points. In fact, the absence of law in the Minor (as compared with the Major) is evidence to me that it is only an arbitrary, man-made form, contrasting with the divine law in the Major.

* From lessons to pupils, 1913.

27. NOTE ABOUT THE SIGNATURE OF Db MINOR.

As this scale is the Relative Minor of F \flat Major it would, logically, have the same signature, which is eight flats, and would therefore include one double-flat; but in practice it is never used, or at least I have never seen it: the enharmonic key (C \sharp Minor) is used instead. If, however, the laws of form require the key of Db Minor instead of C \sharp Minor, it would be expressed by accidentals, so far as I know. Yet, if someone were bold enough to publish a piece in the key of Db Minor and include the necessary double-flat in the signature, I would commend it; for I see no reason why double-flats or double-sharps should not be used in the signature with perfect propriety. In your written exercises you may, if you wish, write the signature of Db Minor with the double-flat, although, as I say, custom does not support us in this.

COLLATERAL READING.

28. INDIVIDUALITY OF SCALE TONES; INTERNAL RELATIONS.

(1) Statement. The Tonic or Key Center. When any note is chosen as the Tonic, or starting point of a scale, a key-center is established, and certain definite relationships are developed between the different scale tones, which are expressed by the terms Dominant, Leading Tone, Sub-dominant, etc. These relationships are inherent in the scale, and are of importance in our study.

(2) Statement. Resulting from the relations just mentioned, certain tones of the scale possess peculiar qualities which may be called tendencies. Investigation proves that there are marked tendencies on the part of the tone on the seventh degree to ascend, and of the tone on the fourth degree to descend, when used under certain conditions in melodic passages. Another tendency, less marked, is that of the third degree to ascend.* These are called melodic tendencies, since they exist independently of harmonic effects. They are not laws, and these tones are not obliged always to follow the directions indicated; they are simply tendencies, or influences, which point Nature's way, and which, under the right conditions, may become sufficiently powerful to control.

*Read Special Notes I and II, §26.

(3) Deduction. Since these tendencies are inherent in the single tone, we may expect them to be effective when tones are combined in chords. This fact, hitherto but little considered, is one of the most potent forces in Theory, and will be considered again after a short time.

(4) Exercise. Find the tendency notes in different scales.

LESSON 3.

SCALES (Cont.)

Related Keys.

MOTTO—*Many important relationships and laws of music rest upon the scale as a basis.*

29. The related keys of any Major key are: first, the keys of the Dominant and Sub-dominant Major; then, the related Minors of all three, (i.e., the Relative Minors of the Tonic, Dominant, and Sub-dominant); and lastly (added by some authorities,) the Parallel Minor, or Minor key of the same name. To illustrate, the keys related to C Major are: first, G Major and F Major (which are respectively the key of the Dominant and Sub-dominant); then, A Minor, E Minor and D Minor (which are respectively the Relative Minors of C, G and F; and lastly, C Minor (which is the Parallel Minor).

WRITTEN EXERCISES.

Write the keys related to each of the following Major keys: G; D; A; E; B; F♯; C♯; D♭; A♭; E♭; B♭; F.

Read also *H. S.*, §334.

30. The related keys of any Minor key are: first, the Dominant and Sub-dominant Minor; next, the Relative Majors of all three (the Tonic, Dominant and Sub-dominant); and lastly, the Parallel Major key (Major key of the same name).

WRITTEN EXERCISES.

Write the keys related to each of the following Minor keys: A; E; B; G; C; F♯; B♭; E♭; A♭; D♭.

The Chromatic Scale.

31. STUDY *H. S.*, §43.

WRITE Chromatic scales in the following Major keys, by first writing the regular (Diatonic) Major scale

in the key, using the signature, and then filling in the Chromatic notes:—In the key of D; of A; of B_b.

Write in figures a formula for the Chromatic scale which will apply equally to all keys.

32. STUDY *H. S.*, §44.

First read the synopsis in *H. S.*, §44. Then, referring to the text-book, make an original synopsis from the text-book, trying to see how one subject grows out of another.

33. INTRODUCTION TO CHORD BUILDING.

It is well to associate the Tonic chord (or chord upon the first degree of the scale) with the study of the scales. It should be played with one hand alone, and in its three positions (for example, C-E-G; E-G-C; G-C-E; play these three forms). This is described in *H. S.*, §96 and in the *Key*, 96.

KEYBOARD EXERCISES.

Play the Tonic triad in its three positions in all Major keys; also, if not too difficult, in all Minor keys. Commence at a slow tempo (e.g., M. M. 60, with two beats to each chord) and increase the speed only as the forms become familiar.

N.B. This exercise does not logically belong here, but it will save time later to become familiar with it now.

34. QUESTIONS 11-20, *Key*, pp. 13-14.

35. ANSWERS TO QUESTIONS 11-20, *Key*, pp. 13-14.

(11) By the term Related Keys is understood keys which have several notes in common; or better still, several chords in common, since nearly all scales have several notes in common.

(12) In the simplest series of relationship each key is a fifth above or below its nearest related key. This forms what is called the series of "Quint Relationships." The other series is the series of Relative Minor and Relative Major Relationship which might be described as the series of "Tierce (or Third) Relationships." In these two relationships we can again see something of the logic

of chord structure, as the above relationships are illustrated in simple triads.

(13) The word Chromatic might be explained in two almost opposite ways. First explanation: The term means *color*; and the Chromatic tone instead of being an original entity, possessing relationship of its own with other tones in the key, is merely a colored or altered form of some actual scale tone. Second explanation: The word Chromatic might be considered as a *colorless* scale since the element of contrast is absent for the reason that the steps of the scale are all alike. This might be considered to make the scale wanting in color contrast, which, like a roll of tape can be cut off at any point and seems to have no design in beginning or in ending. In the Major Diatonic scale the half-steps and whole-steps form such contrast that we are conscious of the individuality of the tones comprising the scale, which individuality is entirely wanting in the Chromatic scale. Read very carefully "The Office of the Half-step," Lesson 2, §25, and "Individuality of Scale Degrees," Lesson 2, §26.

(14) It should be clearly seen that the Chromatic tones are simply laid upon or interposed between the tones of the Diatonic scale, and that the Diatonic scale is the essence of the Chromatic, and all its relationships are just as present as when the Chromatic tones are omitted, leaving simply the Diatonic scale. Read *Key*, 43.

(15) In general, sharps are used going upward and flats are used going downward; but it should be remembered that a natural may sometimes perform the office of an accidental sharp or flat, if it is used after a sharp or flat normal scale tone.

(16) When a letter with sharp or flat appears in the regular course of a scale, it is just as natural to that scale as any white key in the scale of C, since all are scale tones. In singing, the throat does not recognize black keys—all are alike natural to the ear if in the scale. A little Hibernian conundrum illustrates the point; I frequently give it in class work: "When is a sharp not a sharp?" The simple answer is: "When it is natural to the scale." Though it may be rather silly, it contains a most important truth, which you may need to consider seriously and persistently in order to gain the full meaning.

(17) This formula is really the same as the formula for the Diatonic Major scale given in Lesson I with the addition of the interposed Chromatic or accidentally altered notes:

Upward: 1, 1#, 2, 2#, 3, 4, 4#, 5, 5#, 6, 6#, 7, 8.

Downward: 8, 7, 7b, 6, 6b, 5, 5b, 4, 3, 3b, 2, 2b, 1.

If you will follow this formula you can write the Chromatic scale correctly in any Major key. From this you will understand what changes to make to write it in a Minor key. In all cases remember that the Diatonic scale should appear unchanged and the other notes represented as Chromatics.

(18) The chromatically altered tones always appear *following* the unaltered or scale form of the same letter, and never before it. For example, in making a note we would never use F# before F.

(19) Some composers use the sharp fourth and flat seventh (in the key of C this would be F# and Bb) in *both* directions, not changing F# to Gb coming downward or Bb to A# going upward. Their reason, I believe, is that these two tones are characteristic of the Dominant and Sub-dominant keys respectively, and being so closely related and being frequently used for modulating from the key, they have a legitimate place of their own. The writer does not fully agree with this and will show when we study Attendant Chords in *H. S.*, how G# or many other accidentals may be shown to be just as close to the key as are *these two* favored accidentals.

(20) Originally the word Diatonic meant "through all the tones" or through all the keys. This would seem to imply the longer scale consisting of two tetrachords as contrasted with the short or single tetrachord scale. Its applied meaning in modern music is a scale having one tone upon each letter and using all the letters as in regular Major or Minor scales. It is also especially used in contrast with the Chromatic scale, or scale in which there are two sounds or two tones representing one letter.

Comparison of Terms Diatonic, Chromatic, Enharmonic.

"A DIATONIC change means change of PITCH and change of LETTER."

"A CHROMATIC change means change of PITCH but not change of LETTER."

"An ENHARMONIC change means change of LETTER but not change of PITCH."

36. NOTE ON THE CHROMATIC NOTATION.

This formula might be called the **Harmonic**:

1, 2 \flat , 2 \sharp , 3 \flat , 3 \sharp , 4, 4 \sharp , 5, 6 \flat , 6 \sharp , 7 \flat , 7 \sharp , 1.

This recognizes the flat Third and the flat Sixth as suggested by the Minor mode; the sharp Fourth and the sharp Seventh as being the characteristic accidentals leading to the keys of the Dominant and Sub-dominant respectively, which keys are included in the group of related keys—or what is sometimes called the Larger Tonality. The flat Second is also included by reason of its use in the chord of the Augmented Sixth based upon the Dominant and also upon the Neapolitan Sixth, neither of which can be made clear until you have studied further.

Frequently this harmonic form is combined with or substituted for the regular ascending and descending forms as first given in this lesson. After becoming acquainted with these various forms of the Chromatic scale and the erratic way in which it is often noted, you will be inclined to think there is no positive rule, but you will at least understand the principles upon which different composers proceed.

37. EAR-TRAINING.**How to Distinguish Half and Whole-steps.**

The following suggestions usually prove helpful. They are built upon the law of association.

(1) The half-step upward suggests to the mind the ascending Chromatic scale.

(2) The half-step downward suggests the desire to immediately return to the starting tone. To illustrate, play 8, 7, 8 of the scale a few times in succession and then play 8, 7 alone, when the ear will demand the completion of the group and the return to the Key Note. Singers

will recognize this under the syllable order of Doh', Te, Doh'. It is merely a completion of the upward tendency of the leading tone.

(3) The whole-step upward will suggest to the mind the continuation of the Diatonic Major scale.

(4) The whole-step downward will suggest another whole-step (downward) to complete cadencing series of tones like 3, 2, 1 of the scale. This is an outgrowth of the consideration of the Resting and Active Scale Tones as described in the *Key*, 48.

With the aid of the above the student will be enabled to distinguish between an ascending half and ascending whole-step, for the one will suggest the Chromatic scale, while the other suggests the Diatonic scale. Similarly, a descending half-step can be distinguished from the descending whole-step, for the half-step suggests the immediate return, while the descending whole-step suggests further descent.

Please study the above carefully.

LESSON 4.

SCALES (Cont.)

Special Advanced Work.

NOTE. This lesson is not obligatory or even positively necessary. Yet, if you fully master it, you will understand something of the wonderful symmetry of Nature as revealed in Music.

38. THE MEANING OF SCALE RELATIONSHIPS.

STUDY *H. S.*, §§13-29. Also *Collateral Reading*, §39.

EXERCISES.

Write out, and also work out at the keyboard, all the illustrations and exercises mentioned. Try to prove or illustrate each individual statement, and find its bearing on the rest of the matter. If you understand the exposition, try and make an original demonstration of the same principles, using (as far as possible) different keys to illustrate. Use your own language as much as possible first saturating your mind with the ideas by repeated readings of the text mentioned above. Then answer the following questions.

(1) Do you see that 7 of one scale (seventh degree of the scale) is the same letter as the fourth in the "preceding" scale?

(2) Knowing that only one tone is changed in going from one scale to the next in order, do you see that the change is made by creating a new leading tone (by the use of a new sharp); or by restoring an old leading tone (either by taking away a sharp or by adding a flat)?

(3) In connection with question 2, do you see that creating a new leading tone takes us to the key having one more sharp (the next scale in ascending order), while restoring an old leading tone by removing a sharp (or adding a flat) takes us to the next key in descending order?

(4) Does this mean to you that taking away a shar-

is equivalent to adding a flat, or that taking away a flat is equivalent to adding a sharp?

(5) Do you recognize that by going upward a fifth you will reach the same letter as by going downward a fourth? Can you see this in the arrangement of sharps and flats in the signature? Do you also see that going upward a fourth is the same as going downward a fifth?

(6) Do you realize that the "Order of Sharps" gives a series of fifths similar to the order of scales, though not commencing on the same letter?

(7) Can you describe and illustrate a portion of the Circle of Keys—for example, the changes made and the inner meanings involved in the keys of C-G-D-A? (N.B.) Take for a model answer *Collateral Reading*, (1)-(2), §39.

(8) Similarly describe the descending process of that portion of the circle commencing with D (two sharps) and taking in succession the keys of G-C-F-B♭. See *Collateral Reading*, (6), §39.

(9) Describe the process, ascending, in the following keys: B♭, F, C, G, D.

(10) Can you give your impression of the relations of sharps and flats, as shown in this process?

SPECIAL QUESTION.

Do you know any practical reason for studying or even for the existence of the keys with double-sharps and double-flats, when there is a simpler expression for the same thing?

Answer. To ILLUSTRATE THE NEED OF DOUBLE-SHARP KEYS: A law of *form* requires the frequent modulation into the key of the Dominant. If, for example, the Tonic is the key of C♯, the Dominant would have to be the key of G♯—not the key of A♭. This is because the fifth degree of the scale of C♯ is G♯ and not A♭. The key of G♯ (a double-sharp key) is thus related to the key of C♯, whereas the key of A♭ is totally unrelated. It is therefore on account of the relationship of the keys that it is necessary sometimes to use a double-sharp or a double-flat key instead of its simpler equivalent key.

COLLATERAL READING.

39. SCALE ASSOCIATIONS. EXTERNAL RELATIONS.

(1) Statement. Successive scales are formed by using the note upon the fifth degree of each scale as the Tonic, or starting tone, of the next scale. Following this plan, each scale will have one more sharp than the preceding scale.

(2) Exercise and Illustration. Starting with the note C, form successive Major scales at the keyboard or in writing, or both. The fifth degree of the scale of C is the note G, which will become the Tonic, or starting note, of the second scale. This scale of G will have one sharp. The fifth note of the scale of G is D, which will become the Tonic of the third scale. The scale of D has one more sharp than G, or two sharps. Continue similarly to use the fifth degree of each scale as the Tonic of the next scale.

(3) Statement. This series may be continued, by using double-sharps, to the scale of B-sharp. This is called the circle of sharps and includes every key, white or black, in the octave; that is, twelve keys, and so twelve scales.

(4) Statement and Deduction. In each scale all the sharps of the previous scale are retained, and one new one added. This new sharp is always placed on the seventh degree, or leading tone, of the scale, and may be called the "Characteristic Sharp." From this fact we are able to recognize any Major scale instantly, by noting the fact that the keynote of any scale is one half-step above the seventh degree, or leading tone. The seventh degree is revealed by the location of the new sharp, which is always placed at the right in the signature, as it is the only one added. Therefore, the key is recognized as being one half-step above the right-hand sharp in the signature. To illustrate: In the signature of four sharps, D-sharp is found furthest to the right. The keynote will therefore be one half-step higher than D-sharp, and must be in the key of E. Another and far more useful application of this principle will be shown later in the discovery of any fundamental foreign chord, one of the most vague and difficult matters in the study of Theory.

(5) Deduction. Scales having most notes in common (notes belonging to both scales) form what is called related keys. The related keys or scales are, then, the one having one more sharp and the one having one less sharp, since in each case only one note is altered to create the next succeeding scale. For example, the keys most closely related to the key of G are: key of D, since that has one more sharp than G; and key of C, since that has one less sharp than G. By a similar reasoning—the notes in common—the key of the Relative Minor is also considered as a related key. These are the keys most closely related to any given key; the one having one more sharp, which is the key of the Dominant; the one having one less sharp, the Sub-dominant, and the Relative Minor. To these may be added, to complete the list of related keys, the Relative Minor of the Dominant and the Relative Minor of the Sub-dominant. These relationships, the result of similarity of construction, form the basis of the choice of keys in classical compositions. For example, in the sonata form it is customary to place the second theme in the key of the Dominant. Similarly, in fugue the "answer" to the subject is placed in the Dominant. In song form the phrases are found usually in one or another of the related keys. This relationship, when applied in composition, secures unity in variety. It also illustrates how simple laws of Nature affect and control the highest art forms.

(6) Statement. Beginning with the key of C, the circle of keys with sharps was constructed by taking the fifth degree of one scale as the Tonic of the next succeeding scale. This process may naturally be reversed, for if we start with a key having one or more sharps we may find the key which shall have one less sharp, by counting downward as many degrees as were counted upward before. For example, let us start with the scale of D, having two sharps—F-sharp and C-sharp. (The student should follow this carefully at the keyboard or in writing.) To find the scale which shall have only one sharp, simply follow the scale of D downward to the fifth note *from the top*, thus: D, C \sharp , B, A, G. The fifth note touched is G, which will be the Tonic of the scale having only one sharp. Comparing the scales of D and G, we find that since C-sharp is the leading tone of the scale of D, and therefore the one to receive the new sharp in that key, it

will necessarily be the note to lose its sharp when returning to the scale of G. Now note especially that this altered (in this case, the restored) note is the fourth degree of the scale of G. Let us continue by descending fifths, when by a similar process, the scale having no sharps will be the scale of C. Further, the F-sharp, which is the leading tone in the scale of G, is altered (restored) to form the fourth degree of the scale of C.

(7) Deduction. While in the ascending series the added sharp always falls upon the seventh degree of the new scale or leading tone, in the descending series the one note to be altered in each case falls upon the fourth degree of the new scale. But since in descending the fourth note of the new scale is the same as the seventh note of the old scale, therefore in both cases it is the same note which is altered.

(8) Statement and Illustration. Let us now continue the descending series of scales, notwithstanding the fact that there are no more sharps to remove. Five notes downward brings the note F as the new Tonic. This scale, according to §12, (3) and (4), must have B-flat as the fourth degree. Now notice that this flat is introduced at the point where in the other scales the sharp was removed. The flat therefore performs the same office in this scale as was performed by the removal of the sharp so long as there were sharps to remove. This is like the impecunious man who paid his debts, a dollar at a time, until his money was all gone, and was then obliged to give his note in further payment. It is also illustrated by the algebraic proposition that the addition of a minus quantity is equal to the subtraction of a plus quantity, since the addition of the flat creates the same result as the removal or subtraction of a sharp. It is still better illustrated by the register of the thermometer in which the key of C, having neither sharps nor flats, may be compared to the zero mark, while those keys with sharps represent the corresponding numbers of degrees above zero, and the flat keys represent degrees below zero. This is a most important principle, for the "relative sharpness" of different keys and notes will be in constant use after a few lessons.

(9) Deduction. Flats are the opposites of sharps: taking away a sharp from a signature is the equivalent of adding a flat, and vice versa.

(10) Deduction. As by using double-sharps a complete circle of keys was formed, so by continuing as above, by descending fifths, using double-flats where necessary, a complete circle of keys with flats may be formed, continuing till D-double-flat is reached.

(11) Deduction. Since keys having more than six sharps or six flats are unnecessarily complicated, by universal consent the first half of the sharp circle is supplemented by the first half of the flat circle, thus using the simpler half of each, and yet embracing every Chromatic note.

(12) Deduction. The question now arises, "Why, then, did you go to the extreme with what might have been a simple matter?" First, to show how marvelously perfect and complete are the operations of Nature. Nothing produced by the finite mind of man could result in such absolute correspondence, each part proving the whole by its perfect fitting with every other part. There is not a flaw in the logic of Nature. It forms one more proof of the existence of a higher power; and secondly, it was carried to the extreme for the reason that occasionally the more complicated keys are needed for correct grammatical expression. For example, the Dominant of the key of C-sharp is not A-flat, but G-sharp. In a sonata, if the first theme is in the key of C-sharp, the second theme should be in the key of G-sharp. Examples of this are found in Beethoven's sonatas, where the true key of a passage is shown by about two measures of many accidentals, followed by the enharmonic change into the simpler corresponding key.

(13) THE OFFICE OF THE HALF-STEP. Statement. As compared with the Major scale the Minor scale is formed by a different arrangement of the half-steps. It will not be possible to explain the Minor scale in detail at this time, but a full exposition may be found in the text-book mentioned above. It is here particularly desired to call attention to the office of the half-step and its power in music. In the case of the Minor scale the changed locations of the half-steps are sufficient to create the peculiar Minor quality. Further, in *Collateral Reading*, §28, (1)-(3), the tendency notes are in each case only a half-step distant from the note toward which they are drawn, displaying a sort of magnetic attraction. This quality of the half-step is further illustrated below.

(14) Statement. The Major scale has been described as being made up by the union of two short scales of four notes each, called tetrachords by the Greeks—thus

$\overbrace{1\ 2\ 3\ 4}$ $\overbrace{5\ 6\ 7}$ 8. Notice that the half-step concludes each tetrachord. Upward scales always conclude with a half-step, to give the feeling of completion.

(15) Deduction. A Major scale is composed of two tetrachords. The last, or upper, tetrachord of one scale becomes the first tetrachord of the scale having one more sharp.

(16) Deduction. Similarly, or conversely, the first half of one scale becomes the last half of the scale having one less sharp. These two deductions show still more completely the intimate relations of the scales.

The study of the scales reveals the wonderful order, symmetry and perfection of the simple laws of Nature.

40. NOTE. The scale appears to be the very epitome of key relations as well as of the wonderful tone relations and qualities expressed in itself. Let me explain my meaning in detail. You have learned how there are six keys related to any given key, viz: the Dominant and Sub-dominant Major, the Relative Minors of all three (that is, including the Tonic as well as the Dominant and Sub-dominant) and further, the Tonic Minor. Let us see how this works out in the scale of C. Please take a piece of paper and write on it the letter names of the scale tones as follows: C, D, E, F, G, A, B, C. If you like, you may omit the last C, which is merely a duplicate of the keynote. Now check off from this list, the Tonic, Sub-dominant and Dominant and you have the three keys representing the Major group. Now check off the Relative Minors: first, of C, which is A; next, of F, which is D; last, of G, which is E. Now we find everything checked off, except the seventh or leading tone; let us lay aside the consideration of this leading tone for a moment. We may say in passing that the Tonic Minor is not, strictly speaking, a related key, but is rather the same key with a *change of mode*. Let us look at results: we have three Major and three Minor keys; that is, each Major has its Relative Minor. It seems to me almost like dividing the key in perfect balance between the masculine and feminine. Now, further, if you understand just a little of chord building, and I am sure you do, if you build the simple triads upon C, F and G, you will find that in this key, C, they are Major chords; whereas the triads built upon the Relative Minors, D, E, and A, form Minor chords. So here we find

a correspondence in the key between its Major chords and the related Major keys; and between its Minor chords and the Minor related keys. Can you not see how the key in its content is a wonderful epitome of the whole scheme of key relationship? This is to me one of the most wonderful and beautiful things in the subject of Theory.

But now you question: "How, then, do you account for the oversight in the case of the seventh degree?" The answer is this: "The seventh degree is the variable one, or the point from which the key reaches out toward other keys. You will remember that in each case it is a leading tone which is created or destroyed in going upward or downward in our circle of keys; and so Nature left out this tone as the changeable one in the scheme of representing the great relationships of music, through, and in, the scale."

41. QUESTIONS 21-27, *Key*, p. 14.

REMARK: Teachers will find the "Topics for Discussion" at the end of each chapter of "Key" of suggestive value for classroom work.

DAILY TECHNIQUE DRILL.

MOTTO—*If "Theory and Practice go together" be sure to let Practice go with this Theory.*

42. SPECIAL DIRECTIONS.

After completing the study of a subject, do not drop it, but continue to spend a few minutes daily in keeping it in mind, with the aid of this DAILY DRILL.

Take one or two keys each day, *never less than one*. This will complete the circle of keys in one or two weeks, giving real Facility.

Specific Names.

(1) (a) Name and play the notes representing the specific scale names, in the following order: Tonic, Octave, Super-tonic, Leading Tone, Mediant, Sub-mediant, Sub-dominant, Dominant.

NOTE. This order will not be difficult to remember, if it be noticed that the successive tones start as far as possible from each other, and approach as closely as possible, giving the order 1, 8, 2, 7, 3, 6, 4, 5.

To illustrate the above, in the key of D. The student will recite (and play) as follows: Tonic, D; Octave, D;

Super-tonic, E; Leading Tone, C \sharp ; Mediant, F \sharp ; Sub-median, B; Sub-dominant, G; Dominant, A.

(b) Recite the above without reference to a keyboard.

(2) Repeat the above in the Parallel Minor key.

(3) Comparing the Major and the Harmonic Minor forms of the scale we are now considering, state which notes of the Major scale are lowered to make the Minor form.

(4) Name and touch scale notes in the following order: 1, 6, 4, 2, 5, 3, 1. Learn this order by heart. Sometimes use the specific names instead of the numerals.

To illustrate in the key of D as above, the student will play the notes as he says, "1 (or Tonic) is D; 6 (or Sub-median) is B; 4 (or Sub-dominant) is G"; etc.

(5) Recite the sharps in the order found in the signature. Recite the flats in the order found in the signature.

LESSON 5.

INTERVALS.*

MOTTO—*By the study of intervals the inner meaning and the uses of chords are revealed. By it we reach the heart of music.*

General Names.

43. STUDY. Read and study daily *H. S.*, §§53-57; *Key*, 56, and *Collateral Reading*, §46, (3)-(6).

EXERCISES.

Referring to the sections above mentioned, the student will, according to his advancement, go through all required exercises, first at the keyboard and then in writing; or he will take a part at the keyboard and the rest in writing. In any case, they should be continued until facility is attained.

RECITATION.

It will assist the power of quick thinking to recite a few of the exercises to a friend; or to recite without a listener, by setting the metronome at a slow speed and naming one note of the required interval with each beat, or by giving the correct answer to a question within a certain limited number of beats.

44. EAR-TRAINING.

Following the directions given in *H. S.*, §81 *et seq.*, work as well as you can by yourself or with the help of another.

Use particularly the *Ear-training Exercises*, realizing that when you sing two tones in succession a melodic interval is formed. Realize also that intervals are (usually) made from the natural scale tones.

*Special Note. In taking up this subject it is well to observe that it is divided into four general sections, which at first are studied rather independently of one another, viz.: (1) The General Names of Intervals; (2) The Specific Names; (3) Inversions; (4) Consonant and Dissonant Intervals.

Try to keep these four lines of study distinct in the mind.

SPECIAL NOTE. Seconds and sevenths are harsh dissonances: we can hardly help discerning them. Thirds and sixths suggest a chord by their mellow consonance.

The sixth is distinguished easily from the third: it is much further apart. Fourths and fifths both sound "empty": note how the fifth "warms up" when the third is added.

Fifths remind one of tuning a violin—the effect of the open strings.

The fourths suggest a cavalry call on a horn.

A unison is a single tone.

An octave is a tone and its "shadow"—not something different, but still slightly "brightened" by the higher pitch.

Keep these in mind in ear-training and ask yourself: "Is it a sharp dissonance?" If not it cannot be a second or seventh. (NOTE. One is the inversion of the other, hence they are both in the *same class*.) "Does it sound empty?" If not, it is neither a fifth nor fourth (again inversions—therefore in the same class). So you eliminate them two at a time, till you can answer "yes" to the question

Is it harsh?

Is it empty?

Is it sweet like a chord?

45. QUESTIONS 1-10, Key. p. 23.

COLLATERAL READING.

46. (1) The office of the intervals is seldom formally stated; it is this: As chords are composite, being made up of several intervals, the character of a chord must necessarily depend upon the character of its intervals. The best approach to a true understanding of chord structure is therefore through the study of intervals. The exposition here given differs radically from accepted methods, the attempt being made to reach results of practical value through an appeal to the reason instead of to the memory.

(2) Statement. An interval, in the physical sense, is an expression of distance between two given tones sounding either together or in immediate succession. Artistically, it is the effect produced by the two tones. While it is necessary to a discussion of the subject to refer almost exclusively to the physical interval the student should continually think also of the effect or artistic result.

When the two tones of an interval sound together, it is called an harmonic interval; when sounding in succession, it is called a melodic interval.

GENERAL NAMES OF INTERVALS.

(3) Statement. The general name of an interval is determined by the number of degrees of the staff included in its extent, counting extremes, or degrees upon which the notes stand, as well as those between, e.g., C-A (the lower note is mentioned first) is a sixth, since six degrees are involved; G-B is a third, etc.

(4) Exercises. (a) Name the following intervals: F-B; B-D; E-D; C-B; D-F; B-F; B-G; A-G; G-A; A-C. (The answers are, respectively, a fourth, third, seventh, seventh, third, fifth, sixth, seventh, second, third.)

(b) First at the keyboard and afterward in writing, form the intervals of a sixth, third, fifth, seventh, second, fourth and ninth from each of the following notes: F, A, D, G, B, E and C.

(c) Describe the intervals found in the chord G-B-D-F. Ans. G-B is a third, G-D a fifth, and G-F a seventh; B-D is a third, B-F a fifth, and D-F a third. (These intervals are found by taking the different notes in turn and considering in connection with those above.)

Similarly, describe the intervals found in the chord A-C-F; in the chord F-G-B-D; F-B-D; F-A-C-D.

(d) Describe the intervals found in the various chords in printed music; for example, in a hymn tune.

(5) Statement. The presence or absence of sharps and flats does not affect the general name of an interval, though the specific name may be changed, as will be seen later.

(6) Statement. Extended Intervals. Duplication of Notes. When the notes of an interval are more than an octave apart they are considered just as if they were in the same octave. In Theory neither distance nor duplicates of notes affect the result. The relationships are taken as those of the seven notes of the scale, irrespective of pitch or duplication. The chief exception to this is the interval of the ninth, which in the chord of the ninth needs to stand at the full distance from the root of the chord.

LESSON 6.

INTERVALS (Cont.)

Specific (or Descriptive) Names. Measurement of Intervals.

47. Following the plan outlined in preceding lessons, study the matter in *H. S.*, §§58-69; in the *Key*, §§58-69; and in *Collateral Reading*, §51.

KEYBOARD DRILL as outlined in *H. S.*, *Key* and *Collateral Reading*.

WRITTEN EXERCISES as outlined in *H. S.*, the *Key* and *Collateral Reading*.

N.B. Do not lose sight of the General Name of the intervals when studying the Specific Names.

SPECIAL NOTE. Here is a very simple view of the Normal intervals. Comparing the interval C-G and the interval C-A, the first is a Perfect fifth and the second is a Major sixth. But why? Here is the answer:

First take the notes of the interval C-G. The letter G belongs to the scale of C Major, therefore the interval is *Normal*. Now let us reverse the test: does C belong to the scale of G Major? We find that it does; and since each letter belongs to the other's scale, we say that the interval is *Perfect* as well as *Normal*.

Now let us try the interval C-A. A belongs to the scale of C, therefore the interval is *Normal*. But the reverse is not true, for C does not belong to the scale of A Major (C \sharp being the required note). Therefore we say that C-A is a *Normal* interval, because the upper note belongs to the scale of the lower note; but it is not a *Perfect* interval, since the lower note does not belong to the Major scale of the upper note. From the above we can deduce these rules:

Considering any given interval, if the upper note belongs to the Major scale of the lower note, the interval is at least *Normal*; and if the lower note also belongs to the Major scale of the upper note, the interval is also *Perfect*. In other words, when the relationship is *Normal* in *both directions*, it is the most complete relationship possible, and the interval

is called Perfect; but when the relationship is Normal in only one direction (when only one belongs to the scale of the other), the relationship is not so complete and the intervals are not called Perfect, but simply Major.

48. EAR-TRAINING.

Form with the voice Major thirds, starting in turn from each (chromatic) degree within the octave.

After working for a few days with Major thirds, try in turn Minor thirds, Perfect fourths, Perfect fifths, Major sixths, Minor sixths, Major sevenths, Minor sevenths and Perfect octaves. Let this drill be carried through possibly six months.

Please note that this drill has to do with intervals in abstract; that is, having no relationship to any key. For some musicians it is difficult to dissociate the tones from Key Sense, but it is a very desirable power to have. It is curious that with an unmusical person we have to labor a long time to create this sense of Key Relationship (for they hear almost nothing of it); and then that we reverse the process and try to dissociate the hearing of tones from Key Sense, in order to measure them more accurately.

NOTE. In this chapter try to make no break in the daily study, as it is desirable to gain a complete view of the subject as soon as possible after undertaking it. The daily drill in Lesson 8 will fix the matter in the mind and insure facility if it should seem difficult at first.

Remember that this is *foundation work*, and that the principles here developed will be used *always*.

49. QUESTIONS 11-21, *Key*, pp. 23, 25, 26.

50. ANSWERS TO QUESTIONS 11-21, *Key*, pp. 23, 25, 26.

(11) The terms Major, Minor, Diminished and Augmented may be called "comparative" or "descriptive" terms, since by them we may compare or describe the various forms possible to any given interval.

(12) The Major is the standard of comparison, for we say: "The Minor is one half-step smaller than Major," etc.

(13) A Normal interval is an interval formed by

taking the first degree of any Major scale in connection with any degree of the same scale.

(14) A simple way of measuring intervals is as follows: Compare with the Normal intervals, using the lower note as a Tonic. This is more particularly described in *H. S.*, §§ 59-62, also §§ 65-67.

(15) The following intervals are called Perfect when Normal: primes, fourths, fifths and octaves.

(16) A convenient way of remembering which are Perfect intervals is: (1) Think of the nearest related keys (Dominant and Sub-dominant), remembering that the octave is merely a duplication of the Tonic. Another way for more advanced students to remember is to think of the chief chords of a key. Read *Key*, 75 (a).

(17) The Normal Major intervals are seconds, thirds, sixths and sevenths.

NOTE. Both the Perfect and the Major intervals are more easily remembered by observing that they occur in pairs; or, in other words, in complementary groups as follows: (a) Perfect intervals: Unisons and octaves, fourths and fifths; (b) Major intervals: seconds and sevenths, thirds and sixths.

(18) The opinion of the writer is that Perfect intervals may be considered in practical theory as a subdivision, rather than radically different from Major intervals, since they are equally normal.

(19) Two reductions are required to change Major intervals to their Diminished form.

(20) One reduction is required to change Perfect intervals to their Diminished form.

(21) In this respect the Perfect intervals may be said to differ, in that they have no Minor form. Read *Key*, 76.

COLLATERAL READING.

51. (1) Statement. Chords are dependent upon their component intervals for their names, as "chord of the sixth," "of the six-four," etc. Chords are similarly dependent upon their intervals for their qualities, as Major, Minor, Diminished or Augmented, being often named from the most characteristic interval contained. There are then, Major, Minor, Diminished and Augmented in-

tervals. The Major interval is taken as unit of comparison, Minor meaning an interval a half-step smaller than the Major; Diminished, still smaller; and Augmented meaning larger than Major. Formally stated, and more accurately, the various intervals are:

Major } The standard of measurement.
Perfect }

(The difference between the two is explained below.)

Minor, meaning less by a half-step than Major.

Diminished, meaning still less, or less by a half-step than Minor or Perfect.

Augmented, meaning increased, or greater by a half-step than Major or Perfect.

NOTE. A momentarily helpful explanation of the term "Perfect" is that "those Major intervals which have no Minor form are called Perfect." A more accurate statement is that "those Normal intervals which have no Minor form are called Perfect." But the meaning of the word Normal is not yet clear, and the chief point at present is to consider Perfect intervals, not as essentially different from Major, but as a sub-division of the same class, the full distinction to be seen later. Just now think of them as "those which have no Minor form."

MEASUREMENT OF INTERVALS.

(2) The older way of measuring intervals is to count the half-steps included in their extent, first memorizing the number of half-steps in each of the different intervals—a feat too difficult for the average person. The following is offered as a simple, practical and valuable method, involving, as it does, a constant comparison of the different forms of the intervals.

(3) Statement. The Standard of Measurement. Consider the scale of C upon the keyboard. From C to any other degree of the scale of C Major, or from C to any white key, is a Major or a Perfect interval, i.e., a Normal interval; e.g., the following are all Normal intervals: C-D; C-E; C-F; C-G; C-A; C-B; C-C. Some of these are Major intervals and some are Perfect, but all are Normal. This gives us a practical standard of measurement, by which any interval can be measured

and its quality determined; for by the definitions above, a Minor interval is a half-step smaller than a Major interval, an Augmented a half-step larger than the Major, etc. To illustrate: C-A is a Major sixth; one half-step less, or C-Ab, is a Minor sixth. When reduced again by a half-step, to either C-Abb (double-flat) or C \sharp -Ab (for either the upper or lower note may be altered), it becomes a Diminished sixth. Again, compared with the Major form, by increasing the distances by one half-step an Augmented sixth is formed, C-A \sharp . (NOTE. The Diminished sixth is seldom used in composition; it is found here only for illustration.) For exercises see (7) below.

(4) Major, Perfect, Minor, Diminished and Augmented are comparative terms, being considered in relation to the Normal, or standard of measurement.

(5) Statement. From the note C to any note of the scale of C is a Normal interval. Similarly, from the keynote of any Major scale to any note of the same scale, is just as Normal, since the scales are simply duplicates one of the other. (See §12.) For example, from F to any note of the scale of F is a Normal interval; from D to any note of the scale of D, or from Bb to any note of the scale of Bb, is a Normal interval. Therefore:

(6) Statement. (a) To form any required interval, ask: "What would be the Normal interval?" Count from the lower note, and then modify this Normal note as may be required.

(b) To describe a given interval, find the Normal interval, as above, and compare it with the given interval.

Illustration of (a). "Form an Augmented sixth from E." Process: "The Normal sixth from E would be the sixth degree of the scale of E Major, which is C \sharp . As an Augmented sixth is a half-step larger than the Normal, it must be E-Cx (double-sharp)."

Illustration of (b). "Describe the interval D-Bb." Process: "The general name of this interval is a sixth; the Normal sixth from the lower note, D, is B \natural . As the given interval is a half-step smaller it must be a Minor sixth." (N.B. (8) shows that the Normal sixth is Major, and therefore has a Minor form.)

(7) Exercises. (a) E-C \sharp is a Major sixth. Change it first to a Minor, and then to an Augmented sixth. (Ans.

The Minor sixth from E is E-C \sharp ; the Augmented sixth is E-Cx.) Change the Major third F-A to a Minor third. Change the Major sixth F-D to an Augmented sixth. Change the Augmented second D-E \sharp to a Major second; to a Minor second.

(b) Form an Augmented sixth from F; from A; from C; from D; from G; from B. From the same notes form Augmented fourths; also Augmented fifths.

(8) Statement. The Perfect intervals are the Normal unisons, fourths, fifths and octaves. (NOTE. This statement should be memorized. It will appeal to the memory better by noting that the unison and octave are complementary intervals, as are also the fourth and fifth. Further, it should be observed that these intervals correspond to the chief tones of the scale, namely, the Tonic, Sub-dominant and Dominant—the octave being in scale study the duplicate of the Tonic.) These figures, one, four, five and eight, representing the Perfect intervals, and also the chief tones of the scale, will be very frequently under consideration.

The Major intervals are Normal seconds, thirds, sixths and sevenths. Observe that the seconds and sevenths are complementary, as are the thirds and sixths. There are then two pairs of Perfect intervals and two pairs of Major intervals, if two complementary intervals are taken as a pair.

(9) Exercise. (a) State whether the following intervals are Normal, and if so, whether Major or Perfect. Further describe these which are not Normal, as Minor, Diminished, or Augmented; C-G; C-D; D-C; E-B; B-F; B-E; E-F; F \sharp -A \sharp ; F \sharp -B; F \natural -C; A-F; A-E; A-C \sharp ; F-B \flat ; F-A; F-D; F-Eb.

(b) Form a Major sixth (upward) from each of the following notes: D; G; C; F; B; C \sharp ; Eb; D \sharp ; Ab; Gb.

(c) Form Augmented fourths from the same notes; also Diminished fifths, Augmented sixths and Minor sevenths.

• (d) Form a Major third from D, and change to a Minor third.

Form a Major sixth from E, and change to an Augmented sixth.

Form a Perfect fifth from F \sharp , and change to an Augmented fifth.

Form a Perfect fourth from B \flat , and change to a Diminished fourth.

(e) Describe each interval in the following chords: C-E-G-B \flat ; A \flat -C-E-F \sharp ; C-D-F \sharp -A; B-D-F-A \flat ; G \sharp -B-D-E.

(f) Similarly describe chords seen in your daily musical experience. (Make this your daily practice until facility is acquired. He who would attain real familiarity and facility with chords in analysis and at the keyboard must first acquire the power suggested by these exercises.)

LESSON 7.

INTERVALS (Cont.)

Inversions in General.

52. STUDY: *H. S.*, §§70-72; *Addendum* to §72, p. 42; and *Collateral Reading*, §58 (1)-(6).

KEYBOARD EXERCISES.

Take the exercise in §70 of *H. S.*, and play each interval, giving the general name as it is played, and then play it inverted, giving the general name of the inversion.

Continue this exercise by taking intervals from other keys, remembering that the addition of sharps or flats can never alter the *general name* of an interval.

RECITATION.

Recite the above or similar exercises.

Inversion of Specific Intervals.

53. STUDY. Read and study daily, *H. S.*, §§73-74, and *Collateral Reading*, §58, (7)-(10).

KEYBOARD EXERCISES.

(a) Play the interval D-F \sharp ; describe it (that is, give its specific name); invert it, and describe the inversion. (Illustration: The general name of this interval is a third, since three letters are involved. The specific name is a *Major* third, since F \sharp is the Normal third in the scale of D. (Remember that we "think" in the scale of the *lower note*.) Inverted, the general name will be a sixth ($9-3=6$): and the specified name will be a *Minor* sixth, since a Major interval becomes Minor when inverted. To prove that this is a Minor sixth, by thinking in the scale of the lower note we will find D \sharp to be the Normal sixth from F \sharp (remember that F \sharp is now the lower note), and

therefore the Major sixth from F#. Now as D is a half-step nearer to the lower note, the interval F#-D is a Minor sixth. Hence, we may conclude that D-F# is a Major third, which inverted becomes F#-D, a Minor sixth.)

(b) Proceeding as in the above illustration, take each of the following intervals, describe it, then invert and describe the inversion (the lower note of the interval is mentioned first): E-C; G-B; G-C; G-E; G-F; G-F#; C-A; C-Ab; C-Bb; F-G#; F-Ab; F-B; F-D; F-D#; F-Eb; D-D#; F#-C#; D#-C#; C#-Bb; D#-G; Db-G; D-E#; G#-F.

54. WRITTEN EXERCISES.

Write the more difficult of the preceding exercises, particularly those of which you are not absolutely sure. Write at least one complete description, following the foregoing illustration. In all of these written exercises describe carefully the interval and its inversion.

RECITATION.

Recite some of the above with the metronome as previously suggested.

55 EAR-TRAINING.

Continue the study of the different intervals (see *H. S.*, §§87-88). The help of another person is valuable at this point. If it cannot be obtained, try to concentrate the attention upon the quality or character of the different intervals as you strike them at the piano. Also try to sing the intervals—for example, taking the note C from the piano, try to sing the Major Third and then the Minor third. Proceed similarly with other intervals. Also learn to *listen* to the quality of the different intervals and so distinguish them. This will be more fully treated in the next lesson.

56. QUESTIONS 22-29, *Key*, p. 26.

SPECIAL NOTE. The usual cause of failure to grasp and use the specific intervals and inversions is that we forget to "think" in the scale on the *lower note*. If you have trouble at this point, reread carefully *H. S.*, §§59-62, and *Key*, 59, 62.

57. ANSWER TO QUESTION 22, *Key*, p. 26.

Extended Intervals are those in which the two tones are more than an octave apart, being considered as dupli-

cations or extensions of similar intervals within the octave. Their relationships are precisely the same as in the cases of their smaller forms. Consequently, through the action of this principle, when we construct a large chord (even covering many octaves, as in the cases of the orchestra or grand organ) no new principles are introduced and no new relationships are developed. On the contrary, the chord is considered merely as an enlargement of the simple form, resulting from the duplication of notes in several octaves. (To analyze such a chord this simple rule will suffice: Place all notes within the compass of one octave, strike out duplicates of all letters, and so reduce the chord to its simplest form.)

ANSWER TO QUESTION 25, *Key*, p. 26.

This question is intended to bring out the wonderful quality of chords, in the following respect: that when inverted they do not change their real quality, in spite of the fact that by inversion all the Major intervals in the chord become Minor intervals, all the Diminished become Augmented, and vice versa. To illustrate more clearly, let us take the triad C-E-G and invert it, so that it becomes E-G-C. Now observe that the Major interval C-E of the first form becomes Minor E-C in the inverted form. Now observe that the chord E-G-C is just as much Major now as it was in the original form, C-E-G. This brings us to the thought that it is not mere presence of the Major or Minor interval in the chord which makes that chord Major or Minor, but it is the *relation* of each tone in the chord to the root, which gives the real character to the chord. This correlative quality of intervals, by which a Major third may become a Minor sixth and yet not give a Minor quality to the chord, is one of the most wonderful provisions of Nature. Without this quality we would be entirely unable to use chords in their various inversions and positions, for every new form would necessarily give a new character to the chord. Please think very deeply upon this.

ANSWER TO QUESTION 27, *Key*, p. 26..

A Discord is simply a disagreeable sound; a Dissonance means something unfinished, or incomplete, or unrestful.

A dissonance may be very beautiful in effect, for example: The chord of the Dominant seventh is a dissonant chord and yet it is a favorite chord; it is dissonant because it is unrestful or needs something to follow to complete the thought. Dissonance is the proper technical term to use, not discord.

COLLATERAL READING.

58. INVERSION OF INTERVALS.

(1) Statement. An interval is inverted by changing the relative positions of the two notes; the upper one being lowered one or more octaves till it stands below the other note, or, the lower note being raised till it stands higher than the other; e.g., C-F by inversion will become F-C; D-F becomes F-D, etc. The use of this principle becomes apparent when we observe that the different notes of a chord appear in various order, first one note and then another being highest or lowest.

(2) Exercise. First at the keyboard and then in writing, invert the following intervals: C-E, B-F, F-C, E-D, D-B, E-F, G-B, etc.

(3) Statement. To determine the interval which shall result by inversion, subtract the number of the interval from 9; e.g., a third by inversion will become a sixth, since $9-3=6$.

(4) Exercises. What interval will result by inverting D-F? Answer: D-F is a third, and the inversion will be F-D, a sixth, since $9-3=6$. Similarly, describe the inversions given in (2).

(5) Statement. Complementary Intervals.* Any interval and its inversion taken together form what are called complementary intervals, or intervals necessary to complete the octave. Read Key, p. 21: "Complementary Intervals."

*The term "Complementary Interval" is in a way only another expression of the word "inversion." Its special office, however, is to call attention to the fact that the two intervals (i.e., the given interval and its inversion), together always extend over exactly an octave, each one complementing the other and rounding out the octave.

The deeper meaning implied is that the *whole of music* taken as a science is in a sense *contained within the octave*. It is a little difficult to make this point clear in words. It is rather something which is gradually absorbed as these various principles are studied in their relations and interrelations with each other.

(6) Exercises. What is the interval complementary to the fourth? To the seventh? To the fifth? To the unison? To the sixth? To the third? To the second? To the octave?

(7) Statement.

By inversion Major intervals become Minor.

By inversion Minor intervals become Major.

By inversion Augmented intervals become Diminished.

By inversion Diminished intervals become Augmented.

By inversion Perfect intervals remain Perfect.

(8) Observation. In the foregoing table the correlative or complementary quality of Major and Minor, and of Augmented and Diminished, become very clear. The importance of the principle will be noted when the different chord forms (positions and inversions) are under consideration, for in the absence of these complementary or correlative qualities a chord would often completely change its character by inversion. To illustrate: In the chord G-B-D-F is a Diminished fifth, B-F. In the inversion of this chord, D-F-G-B, the same letters, B-F, by inversion become F-B, which is an Augmented fourth. Now, if Diminished and Augmented intervals were not complementary or correlative, the character of the chord would necessarily be changed by the inversion. That the character is not changed is one more illustration of the perfect working of Nature's laws.

(9) Observation. While Major and Minor are correlative, as are also Diminished and Augmented, the Perfect intervals remain in a class by themselves. This is an important difference between Major and Perfect, that while Major intervals by inversion become Minor, the Perfect intervals remain Perfect when inverted.

(10) Exercises. Prove experimentally the statement in (7) and (9), by inverting at the keyboard, and also in writing, various Major, Minor, Augmented and Diminished intervals.

LESSON 8.

INTERVALS (Cont.)

Consonant and Dissonant Intervals.

MOTTO—*To fully understand the principle here given and its application as shown in later lessons, is to come very near the Heart of Music, and to see the workings of one of Nature's great Laws.*

59. STUDY. Learn thoroughly §75 of *H. S.*, with this reservation—that it is not important to know which are perfect and which are imperfect consonances, as the two are treated alike in Harmony. Read *Key*, 75 (b).

EXERCISES.

Turn to all the exercises in notation in this chapter, and observe each interval, giving its specific name and stating whether it is consonant or dissonant. Write a few examples from among them, especially the more difficult.

WRITTEN EXERCISES.

Write the series of consonant intervals from the note C as the lower tone. Illustration and answer: We must remember that all of the intervals are represented as contained within the octave, so that if we take a given note, for example C, and place it in connection with every other tone of the octave, we will have all the intervals (all of the different kinds). C-C is a Perfect unison; C-C \sharp is an Augmented unison; C-D \flat is a Minor second, etc. (Note that some of the intervals are expressed in two different ways, as C-C \sharp and C-Db.) (Observe also the abbreviations occasionally used—Maj., Min., Dim. and Aug. for Major, Minor, Diminished and Augmented; also Perf. for Perfect.)

With this explanation, let us take the Note C in connection with every other (chromatic) tone of the octave in turn, and select those intervals which according to §75

of *H. S.*, are consonant, with the following result: C-C, Perf. unison; C-E_b, Min. third; C-E, Maj. third; C-F, Perf. fourth; C-G, Perf. fifth; C-A_b, Min. sixth; C-A, Maj. sixth; and C-C, Perf. octave.

NOTE. To form the series of dissonant intervals, we need only to take the remaining intervals of the octave, as *all intervals must fall under one of these two classes*. For example: C-C_#, Aug. unison; C-D_b, Min. second; C-D, Maj. second; C-F_#, Aug. fourth; C-G_b, Dim. fifth; C-A_#, Aug. sixth; C-B_b, Min. seventh; C-B, Maj. seventh; and C-C_b, Dim. octave, are all dissonant intervals. Now proceed with the following.

60. WRITTEN EXERCISE.

Write, as shown above, first the consonant and then the dissonant intervals from the following notes: G; F; E_b; E; A_b; B; D_b; F_#. (Continue from other notes until facility is gained.)

KEYBOARD EXERCISES.

Proceeding as above, form the series of consonant intervals and then the series of dissonant intervals, from each of the following notes: C; D; B_b; A; G_b; G_# etc. If possible, use the metronome in forming the series and note the speed of the *first* and the later attempts.

RECITATION.

Recite the series of consonant and dissonant intervals as above, noting the speed attained.

61. EAR-TRAINING.

Continue as directed in previous lessons; try particularly to sing them. From now on try to observe from the effect which are consonant and which dissonant. Let a friend play different intervals (write out a promiscuous series for him to play, if necessary) while you listen carefully as each one is repeatedly played, and decide as to its specific name, which will of course determine its consonance or dissonance.

NOTE. When played by themselves you will be unable to distinguish between certain intervals (for example, the Aug. fifth and Min. sixth, or the Aug. second and Min. third, or the Aug. fourth and Dim. fifth), for the sound will be identical. Yet this never makes confusion in hearing music,

for the other tone or tones present will unfailingly indicate which is intended. This is like interpreting a sentence by the context.

62. QUESTIONS.

Write answers to questions 30-35, *Key*, p. 26.

63. ANSWERS TO QUESTIONS 30-32, 34-35, p. 26, *Key*.

ANSWER TO QUESTION 30.

Consonant Intervals in a Key.

Perfect Unisons.	Perfect Fifths.
Minor Thirds.	Minor Sixths.
Major Thirds.	Major Sixths.
Perfect Fourths.	Perfect Octaves.

Dissonant Intervals in a Key.

Aug. Unisons.	Dim. Fifths.
Dim. Seconds (not in common use).	Aug. Fifths.
Min. Seconds.	Dim. Sixths (seldom used).
Maj. Seconds.	Aug. Sixths.
Aug. Seconds.	Dim. Sevenths.
Dim. Thirds.	Min. Sevenths.
Aug. Thirds (not in common use).	Maj. Sevenths.
Dim. Fourths.	Aug. Sevenths (not in common use).
Aug. Fourths.	Dim. Octaves.

ANSWER TO QUESTION 31.

This is intended to bring out the idea that all chords must be classified under one of these two heads (consonant or dissonant) and treated accordingly.

It will simplify matters very much in future to bear this point constantly in mind: that all consonant chords are treated according to certain principles, and all dissonant chords are treated according to entirely different principles.

ANSWER TO QUESTION 32.

In the Major scale the intervals formed by the Tonic

and Third and the Tonic and Sixth taken together are Major, while in the Minor scale these intervals are Minor. Further, to change a Major to a Minor scale, we lower the third and sixth degrees a half-step. Now as the intervals of a Maj. third and Major sixth are changed to Minor in the same way as the Major scales are changed to Minor scales, the relation between the Major scales with their Major third and Major sixth, and the Minor scales with their Minor third and Minor sixth becomes apparent.

ANSWER TO QUESTION 34.

By color is usually meant the degree of cheerfulness, or brightness, upon the one side; or of sadness, etc., upon the other side. You will find as you go on in the study of music, a close connection between Major intervals and the brighter compositions, and between Minor intervals and Minor compositions; but you must not think that this means that we cannot find any Minor intervals in a bright composition, for we can.

ANSWER TO QUESTION 35.

As we trace the subject further, we find that the large intervals in the motive of a composition (intervals like a fifth, a sixth, or an octave) tend to make the composition more robust, rugged and aggressive in character; while the smaller intervals like the half-step, or a second or third, tend to make the composition quiet, meditative or sad. It is particularly interesting to study the motives in Wagner's operas with this in view.

64. SPECIAL NOTE.

Did you ever observe that it is the fifth of a chord which is most important in determining whether it is to be Augmented or Diminished, while the quality of Major or Minor depends chiefly upon the third? To illustrate, let us take the chord C-E-G. To make the chord Augmented, raise the fifth (please also note that the Major third must be associated with the Augmented fifth to make an Augmented Triad; or, in other words, the extra large fifth requires a large third to accompany it). Now return to C-E-G for a fresh start. To change this to a Minor triad the third must be altered. And if we now wish to change this Minor triad to a Diminished seventh the change is made by lowering the fifth. So that whenever Augmented or Diminished

is mentioned my mind at once goes to the fifth of the chord, while if Major or Minor is mentioned my mind goes at once to the third. This becomes very simple and practical if we remember at the same time that the extra large fifth requires the large (Major) third while the Diminished fifth requires the small (Minor) third.

It may be noted, in a broader way that the quality of Major or Minor either in chord, interval, scale or melody depends most directly and essentially upon the quality of the third of the scale (if the scale or melody is under discussion), or upon the third of the chord if the chord or interval is under discussion. The third is even more important in this connection than its complement, the sixth, as is illustrated in the Melodic Minor scale, which has a Minor third, while the sixth is not lowered. So we may conclude that it is not the second or seventh or any other interval but the third (and in a lesser degree the sixth), which is primarily the source of the Major and Minor modes.

65. DISSONANT INTERVALS THAT SOUND WELL.

Students often ask why an Augmented second or an Augmented fifth is called a dissonant interval when the Minor third or Minor sixth, sounding like them, are classed as consonant.

This might be called a "Grammatical" or "Theoretical" classification, since a few dissonant intervals do sound like consonances when taken alone. But considered with the "context" the dissonance is usually apparent. For example, C-G \sharp sounds consonant; but take C-E-G and holding the C and E, change G to G \sharp , when the dissonance will be extreme. This is what I mean by "context." But this kind of illustration does not always work. For example, the Diminished fourth does not readily yield an illustration; the best I can do is: Take A b -C-F, the C-F being the Perfect fourth; now flat F, and you have a clear dissonance. But if you take A b as context, the resulting chord sounds like an ordinary Minor triad.

Like most musicians, you have possibly thought that a dissonance is the same as a discord, but there is a marked difference. While a discord is an unpleasant sound, you should realize that "dissonance" does not necessarily mean the *bad sound* you have always thought, but rather an interval or chord requiring some other to follow to give repose; and you will always find these Augmented seconds, etc., followed by consonances.

COLLATERAL READING.

66. DIFFERENCES BETWEEN MAJOR AND PERFECT INTERVALS.

(1) Statement. (a) Perfect intervals have no Minor form. That those Normal intervals which have no Minor form should be called Perfect seems at first thought illogical; since they are apparently more limited than the Major intervals. The significance of the term Perfect is found largely in the mathematical relations of the vibration numbers of the two tones of a Perfect interval.

(b) Perfect intervals become Diminished by being reduced one half-step, whereas a Major interval requires two such reductions to become Diminished. (This is merely another statement of (a), though it has special significance in practice work.) This is shown by the subjoined comparison of the intervals:

(1) Augmented Major Minor Diminished	(2) Augmented Perfect Diminished
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(c) Perfect intervals, when inverted, remain Perfect, or Normal, while Major intervals by inversion become Minor; i.e., not Normal.

(d) Perfect intervals cannot be made smaller without destroying their quality of "consonance" (see (2) below), while the consonant Major intervals do not lose this consonant quality when made Minor. This fact has a most important bearing upon the structure of chords as illustrated in the following: Play the chord C-E-G, noting the consonant effect; then change G to G_b, playing the other notes as before, when the dissonant character of the chord with the altered fifth will be apparent. Note that C-G is a Perfect fifth, which is consonant (see (2) below), and loses its consonant character when made smaller, C-G_b. In contrast to this, we will change the Major interval C-E, chord C-E-G. Play it as before, noting the consonant quality; then change E to E_b, playing the other notes as before. As this last form (C-E_b-G) is consonant, it is clear that a consonant Major interval may be made smaller without destroying its quality, or classification, as described in the following sections; while the

Perfect intervals might well be called "sensitive" intervals, since they cannot be altered in any manner without altering their character. (NOTE—This section should be read again after (2)-(3) below.)

INTERVALS—CONSONANT AND DISSONANT.

In the preceding sections we have considered the subject of intervals, the general names, specific names, and the measurement and comparison of intervals. We now have to consider the subject from a new point of view, namely, the qualities of consonance and dissonance.

(2) Statement. Intervals are classed according to their musical effect, as—

(a) Consonant, meaning those intervals upon which it is agreeable to pause, and which do not need to be followed by another interval to produce a pleasant effect; and

(b) Dissonant, or those which are not satisfactory to dwell upon, or to use in the final chord of any composition.

(c) Consonances are further divided into Perfect and Imperfect consonances, with reference to the degree of concord, as follows:

Consonances.	Perfect:	{ All Perfect intervals, viz.: Perfect Prime (or Unison), Perfect Octave, Perfect Fourth, Perfect Fifth.
	Imperfect:	{ Major Thirds and Sixths. Minor Thirds and Sixths.
Dissonances.		Seconds and Sevenths, together with all Augmented and Diminished intervals; i.e., all intervals other than the Perfect intervals and Major and Minor Thirds and Sixths.

(3) Exercises. (a) Form and describe various intervals as consonant or dissonant. Particularly, form illustrations with different chords, similar to that shown in (1) above.

(b) Find and describe dissonant intervals in chords or printed music, carrying the practice into the daily musical life.

(4) Statement. Referring to the statement (see *Collateral Reading*, Lesson 5, [1]), that chords are composite, and for their character depend upon the character of their constituent intervals, it should now be understood that (1) When all the intervals of a chord are consonant, that chord will be consonant; and (2) When even one dissonant interval is found in a chord, that chord will be dissonant. This leads to the division of chords into two great classes: (1) *independent*, or consonant chords, which do not require to be followed by another chord, and which indicate the quality of repose or inaction; and (2) *dependent*, or dissonant chords, which must be followed by a consonant chord to give the feeling of rest or completion. One of these qualities (consonance or dissonance) is characteristic of every chord in music, leading logically to a consideration of the great principle of **Resolution**, or the progression of dissonance to consonance in successive chords, or intervals. Read also *Key*, 75 (c).

67. QUESTIONS ON INTERVALS: *Key*, p. 23.

ADDITIONAL QUESTIONS: *Key*, p. 25.

68. DAILY TECHNIQUE DRILL IN THEORY.

(NOTE. All illustrations are here given in the key of D.)

- (1) (a) Form all the Perfect intervals from the keynote.
- (b) Change each of these Perfect intervals to Augmented.
- (c) Change each of these Perfect intervals to Diminished.

Illustration: D-D is a Perfect prime; D-G, a Perfect fourth; D-A, a Perfect fifth, and D-D, the Perfect octave. Changed to Augmented, they will be, respectively: D-D \sharp ; D-G \sharp ; D-A \sharp and D-D \sharp . Changed to Diminished, they will be, respectively: (there is no Diminished prime); D-G \flat ; D-A \flat and D-D \flat .

(2) (a) Form all the Major intervals from the keynote.
(b) Change these to Augmented.
(c) Change these to Diminished.
(d) Change these to Minor.

Illustration: D-E is the Major second; D-F#, the Major third; D-B, the Major sixth, and D-C#, the Major seventh. The change to Augmented gives, respectively: D-E \ddagger ; D-F \ddagger (double-sharp); D-B \ddagger and D-C \ddagger . The change to Diminished gives: D-E $\flat\flat$ (double-flat); D-F \flat ; D-B $\flat\flat$; D-C \flat . The change to Minor gives: D-E \flat ; D-F; D-B \flat , and D-C.

LESSON 9.

TRIADS.

The Principle of Chord Building.

MOTTO—*All chord forms grow out of the Triad. Therefore, facility in forming the triads is indispensable to later success. Be thorough.*

69. NOTE.

We will first study triads in general, learning how to form any and every one, afterward associating them in keys and using them.

NOTE. So many are unable to readily "think" triads that we dare not take anything for granted. Therefore we will first take the simple drill which has been found most helpful in class work, particularly with children.

The "Alternate" Letter Principle.

Whereas a scale consists of CONSECUTIVE letters, the elemental principle of chord forming is the use of ALTERNATE letters. Preliminary to the regular study of triads we will therefore learn to think quickly of the LETTERS involved in any and all triads, excluding all thought of the sharps or flats. (NOTE. This point is much like the difference between the general and the specific name of intervals.) To illustrate, the letters used in the triad of D are D, F and A. Note that it is not F# but F. If the Major triad were required we would use F#, but we have not yet come to that.

EXERCISES.

Recite the entire series of triad letter forms, as follows: C-E-G; D-F-A; E-G-B; F-A-C; G-B-D; A-C-E; B-D-F; C. (The last letter, C, is included for the rhythmic effect.) Continue to recite this series till a speed of 100 or more is attained, saying a whole group of three letters for each beat. Also reverse the order, as follows: C-E-G; B-D-F; A-C-E; G-B-D; F-A-C; E-G-B; D-F-A; C.

Another form of the exercise is to recite all of the letters in alternating form, thus: C-E-G-B-D-F-A-C, etc.; then from D, D-F-A-C-E-G-B-D, etc.; then from E; from F, etc.

NOTE. This alternating order of letters in a chord is never violated, even when sharps or flats are introduced. (Even the inversions of the chords are traced back to this fundamental form.)

Remembering this principle, we are less likely to name the notes of a chord wrong by substituting the flat of one letter for the sharp of another, to say, for example, G_b when we mean F \sharp , as might easily occur if we first touch the keys upon the piano and then name them without system. Looking upon the piano at the notes B-D \sharp -F \sharp , we could not say if we remember this principle of alternate notes that the triad of B is formed by the notes, B, E_b and G_b, but by B, D \sharp and F \sharp .

It is most important that this principle be thoroughly applied, as it is so necessary in all later work. REMEMBER, that although we may add sharps or flats we *cannot change the letter name of a note* and still retain the original name of the chord. Now a question: What letters are required to form the triad of G_b? (NOTE. Before reading further please mentally answer the question.) The usual classroom answer is G_b, B_b, D_b, but we should remember that flats and sharps have nothing to do with the LETTER, and the true answer is G, B and D.

70. EXERCISES.

Name the letters forming the triad of F \sharp . (Ans.: F, A and C. Do not be confused by the absence of the sharps.)

Similarly, name the letters used in forming the triads of A_b; of B_b; C \sharp ; G \sharp ; E \sharp ; B \sharp . Write the answers to the last four.

Chord Structure in General.

71. STUDY: *H. S.*, §91 (to the Exercises only); *Key*, 91; *Collateral Reading*, §75, (1)-(3). Advanced students also read *H. S.*, §90.

DRILL upon the above. In the triad C-E-G, which note is the root, and which the third, which the fifth? (Ans.: C is the root, E the third, and G the fifth.) Similarly name the root, third and fifth of each of the following triads: A-C \sharp -E; F \sharp -A-C; B-D-F; F-A-C.

NOTE. This exercise, though absurdly simple, is given to establish the identity of the three elements of the triad. It will soon be necessary to have the point to use.

72. THE MATERIAL OF MUSIC; OR, THE SCALE AS THE BASIS OF ALL MUSIC.

In the scale are contained all the materials from which music is constructed. In the single tones of the scale are found the melody or the chief part of it, since the Chromatic passing tones appear not as the real substance of the melody but are like unimportant decorations. By combining the scale tones into chords the harmonic structure is developed, therefore we may say that **both melody and harmony are developed from the scale**. Further, following the principle of alternate letters and choosing only TONES BELONGING TO THE SCALE, we may build a triad upon EACH DEGREE OF THE SCALE; that is, we can use each scale tone in turn as the root, upon which to build a triad by adding the third and fifth above, as shown in *H. S.*, Fig. 25. We make therefore seven different chords, one upon each degree of the scale. Note that **these seven different triads are all in the key**. Do not think that the triad upon the first degree is more truly in the key than the triad upon any other degree. Now—

STUDY: *Collateral Reading*, §75, (7)-(8), and *H. S.*, §91 (the Exercises), and §92.

OBSERVE: (1) That the triads upon the different scale degrees differ in their sound; and (2), that they differ in the kinds of thirds and fifths contained. This leads to the consideration of

The Specific Forms of Triads—Major, Minor, Diminished and Augmented.

73. STUDY: *H. S.*, §93; *Collateral Reading*, §75, (5) and (9); *Key*, 93.

NOTE 1. The abbreviations Maj., Min., Dim. and Aug. will be used for the four kind of triads.

NOTE 2. In the following work the triads are not supposed to be in any particular key, but simply formed from any required note by adding the proper intervals.

NOTE 3. It will be easier to remember the intervals required for the Dim. and Aug. triads if we note that the "extra small" (or Dim.) fifth is used with the "small" (or Min.) third, to form the Dim. triad, while the "extra large" fifth and the "large" third work together to form the largest form of the triad, or Aug. triad.

SPECIAL DRILL.

(a) Why is C-E-G a Maj. triad? (Ans. for illustration: "Because it has a Maj. third and Perf. fifth.") Why is C-Eb-G a Min. triad? Because it has a Min. third, C-Eb, and a Perf. fifth, C-G. Why is B-D-F a Dim. triad? Why is D-F#-A# an Aug. triad? Why is A-C-E a Min. triad?

(b) Describe the triad C-E-G#. Ans.: It has a Maj. third, C-E, and an Aug. fifth, C-G#, and is therefore an Aug. triad.

Describe similarly D-F-Ab; F#-A-C#; F#-A-C; Bb-D-F#; Bb-Db-Fb; A-C-Eb; A#-C#-E; A-C#-E.

(c) Write the Maj. triad upon each of the following notes: D; Eb; G; C; Ab; F; Db; A; F#; D#; B; G#; E; C#.

(d) Write Min. triads upon the same notes.

(e) Write Dim. and Aug. triads upon the same notes.

KEYBOARD EXERCISES.

(1) (a) Repeat (c), (d), (e) at the keyboard.

(b) Form the triad of C Maj. Next change it to Aug., then back to Maj., then to Min., then to Dim.

(c) Proceed similarly with the triad on Db, giving it the four forms in succession, then with the triad of D, and continue through all the chromatic tones in the octave.

(d) Also write this exercise complete and note speed attained with the same at the keyboard.

(2) Form various Aug. and Dim. triads *without* first giving the Maj. form. Also write examples of the same.

74. QUESTIONS 1-16, Key, pp. 50-51.

COLLATERAL READING.

75. It is not intended to go into the formation, positions and inversions of triads and common chords, as the subject is covered in many text-books, but rather to take up a few thoughts relating to the subject, which may not be found in all books.

(1) Statement. A chord, in the general sense of the term, and as generally used, is an imitation of the Great Chord of Nature, as shown by comparison with what is known as the "Harmonic Series," or "Overtones." (Nature's Chord is illustrated by the series of tones produced from a keyless brass horn, or by those produced by a vibrating string.) The chord of three different notes (the triad) has its counterpart in the first notes of the Harmonic Series. Being so closely in accordance with Nature would seem to argue strongly in favor of the claim of superiority of our musical system as compared with other systems, such as the Chinese.

(2) Chord structure in general. A chord is formed by adding the intervals of a third and fifth; or a third, fifth and seventh; or a third, fifth, seventh and ninth to any note which is taken as a root. In other words, a chord is composed of a series of thirds superimposed, or placed one above the other.

(3) Parenthetically, it might be observed that whereas a scale is formed of consecutive letters, a chord is formed of alternate letters. The chord of three different notes is called a Triad. This is the simplest and original form of the chord principle, or harmonious combination of different pitches. (NOTE. Two tones in combination form an interval; three or more tones form a chord.) When one note of the triad is doubled to make four-part harmony, the triad becomes a common chord. When a chord is composed of four different notes, being composed of alternate letters, it is called a chord of the seventh. Similarly, by a process of adding thirds, a chord of the ninth, a chord of the eleventh, or a chord of the thirteenth may be formed. The latter chords, however, are not in very general use.

(4) Statement. Chords are composite, being made up of intervals. The character of a chord depends upon the character of the intervals contained. (See *Collateral Reading*, §51, [1]).

(5) Statement. Specific Names of Triads. There are four kinds of triads—Major, Minor, Augmented and Diminished. They are named from the most characteristic interval contained, as follows: A Major triad has a Major third and Perfect fifth, counting from the root. A Minor triad has a Minor third and Perfect fifth,

counting from the root. A Diminished triad has a Minor third and *Diminished* fifth. An Augmented triad has a Major third and *Augmented* fifth, counting from the root. (The characteristic intervals in each of the four kinds of triads is here in *italics*.) It is desired that the relation between the chord and its most characteristic interval should be clearly seen, as it has a most important bearing upon the whole structure and practice of music.

(6) Exercises. Form examples of each of the four kinds of triads from each chromatic note of the octave. (NOTE. This exercise is most valuable when taken in systematic form and with increasing speed, controlled by the metronome.)

(7) Statement. To be in the key, a chord must be composed *exclusively* of scale notes. If even one note is not a scale note, the chord cannot be said to be strictly in the key.

(8) Statement. The Material of Music. A chord, either a triad, chord of the seventh, or other chord, may be formed upon each degree of the scale. The seven notes of the scale and the chords built upon these seven notes, may be said to be the alphabet, or the prime elements of music, which are combined much as language is formed to express every emotion possible to human experience.

(9) Statement. Of the triads formed upon the seven scale notes, there are three kinds, Major, Minor and Diminished, found in the Major mode (or scale); and all four kinds are found in the Minor mode. It might, at first thought, seem strange that a Minor triad should form part of a Major key. In this, as well as in other respects, a key represents a family which is composed of dissimilar elements.

(10) Exercises. Form a triad upon each degree of several Major and Minor scales, and describe each triad in turn.

(11) Note. Positions, Inversions, Marking Chords, Connecting Chords, Figuring Chords. It is suggested that the earnest student should make thorough drill, particularly at the keyboard, of each point in turn. Detailed directions may be found in *H. S.* In general it should be noted that it is possible to place the different notes of the chord in *any desired order*.

LESSON 10.

TRIADS (Cont.)

MOTTO—*Be thorough and patient. As soon as a new thought is grasped take it to the keyboard and use it; compare it with the points previously gained—that is, co-ordinate it—and find its relations to the subject as a whole. Especially here, learn by Doing. “Do” each point as it unfolds to your mind.*

76. SPECIAL DIRECTIONS.

Read with a hand upon the keys, and follow the unfolding of the idea by having the hand go through the chord forms described. This is most practical and helpful.

The four kinds of triads, Maj., Min., Dim. and Aug., continued from preceding lesson. You are supposed to have written the series of triads required in the *Keyboard Exercises*, Lesson 9, §73, where we take the triad of C Major, change it to Augmented, back to Maj.; to Min.; to Dim., and then progress to the triad of Db and go through the same process, etc. Below are given the triads in their proper order, for comparison with the one written by the student.

Fifths: G ,G#,G ,G ,Gb ; Ab,A ,Ab,Ab ,Abb; A ,A#,A ,A ,Ab ;

Thirds: E ,E ,E ,Eb ,Eb ; F ,F ,F ,Fb ,Fb ; F#,F#,F ,F ,F ;

Roots: C ,C ,C ,C ,C ; Db,Db,Db,Db ,D ; D ,D ,D ,D ,D ;

1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

Fifths: Bb,B ,Bb,Bb ,Bbb; B ,B#,B ,B ,Bb ; C ,C#,C ,C ,Cb ;

Thirds: G ,G ,G ,Gb ,Gb ; G#,G#,G# ,G ,G ; A ,A ,A ,Ab ,Ab ;

Roots: Eb,Eb ,Eb,Eb ; E ,E ,E ,E ; F ,F ,F ,F ,F ;

1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

Fifths: C#,Cx,C#,C#,C ; D ,D#,D ,D ,Db ; Eb,E ,Eb,Eb ,Ebb ;

Thirds: A#,A#,A#,A ,A ; B ,B ,B ,Bb ,Bb ; C ,C ,C ,Cb ,Cb ;

Roots: F#,F#,F#,F# ,F# ; G ,G ,G ,G ; Ab,Ab,Ab,Ab ,Ab ;

1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

Fifths: E ,E#,E ,E ,Eb ; F ,F#,F ,F ,Fb ; F#,Fx,F#,F# ,F ; G

Thirds: C#,C#,C#,C ,C ; D ,D ,D ,Db ,Db ; D#,D#,D#,D ,D ; E

Roots: A ,A ,A ,A ,A ; Bb,Bb ,Bb ,Bb ; B ,B ,B ,B ,B ; C

1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1

WRITTEN EXERCISES.

If you have not already done so, or if incorrect at the previous attempt, write the above in notes, on the treble staff. Write from memory, or rather from understanding—not by copying.

NOTE that the roots of the series above form a chromatically ascending series, C, Db, D, Eb, etc. Note further that Db could also have been written C#, Eb as D#, etc. In the above the simpler form was taken in each case—the one requiring fewest double-sharps or double-flats in the triads. But it is advisable for the student who is somewhat advanced to write and recite the above series first with the "flat" root and then with the "sharp" root, changing it enharmonically. (For definition of "enharmonic," see *H. S.*, §§24, 78.)

77. KEYBOARD EXERCISES.

Play the foregoing series of triads, without referring to the printed or written copy. This will not be difficult if you will first fix the series in mind: Maj., Aug., Maj., Min., Dim.; "progress" (to the next root) and note also that in passing from one form to the next in order, *only one note is changed*.

TWO METHODS OF PRACTICING THE ABOVE.

(a) As each successive form is struck, say "Maj., Aug., Maj., Min., Dim.," naming each form and striving to be conscious of (1) its sound, (2) its feeling under the fingers, (3) its variations from the Normal or Major form, and (4) of its appearance on the printed page, or the way it would be written.

(b) As the successive forms are struck, name the single note which is altered to create the new form each time. For example, playing C-E-G, say "Major C-E-G." Then when you change to the Aug. form, say "G#" as you play the Aug. triad. If you were to change from the Maj. to the Min. form, you would say "Eb" or "Min. Eb" as the Min. triad is struck. Then, as you strike the next triad, Db-F-Ab, you would say "Maj. Db-F-Ab." Begin this practice slowly, M.M. 50, and two beats to each chord. Then, as facility is gained, increase to a rapid speed, say 120-160, with one beat to each triad.

PRACTICE THIS EXERCISE BOTH ASCENDING AND DESCENDING. Note that in descending, when

you change from the Dim. form of one triad to the Maj. form of the next one below—e.g., from C-E \flat -G \flat to B-D \sharp -F \sharp , only one note is really changed, the upper two being enharmonically altered. Practice it also with the left hand. Continue the training daily for from one to three weeks, putting most of the time upon the weaker points.

ANOTHER ASCENDING FORM is as follows: Maj., Min., Dim., Min., Maj., Aug. "Progress," e.g., C-E-G, C-E \flat -G, C-E \flat -G \flat , C-E \flat -G, C-E-G, C-E-G \sharp ; now "progress" to D \flat -F-A \flat , and continue as before. Practice this in the two ways.

NOTE. The above series becomes more or less "mechanical" in a short time, and does not call upon the reasoning powers sufficiently. So we must devise a training to fill this requirement, one that will not allow the fingers or mind to reach a conclusion without direct and independent thought. This point is gained by taking the triads in such a series as to prevent each one from being formed from the preceding, but on the contrary, formed directly by the knowledge of the intervals composing it. Therefore you should now review the statements in *H. S.*, §93, about the component intervals of each kind of triad.

78. RECITATION.

(a) Recite the notes of the triad of C Major (C-E-G). Then pass upward a whole-step from C to D, and recite the notes of the Major triad on D. Pass upward a whole-step again and recite the notes of the Major triad, continuing the process until C is reached an octave higher. Then commence upon C \sharp (also sometimes calling it D \flat) and proceed as before, naming the notes of the Major triad in each case.

(b) Repeat the process, but this time naming the notes of the *Minor* triad each time.

(c) Proceed as before, but naming the notes of the Aug. triads. Note here that you should not mentally first form the Maj. triad and then change it, but you should go straight to the Aug. form and name each note, remembering that a Maj. third and Aug. fifth from the given root—whatever it may be—are required.

(d) Name similarly the Dim. triads, remembering that the Min. third and Dim. fifth are required—do not first

form the Maj. or Min., that is, if you are able to do it without this help.

WRITE three examples of Maj. triads, three of Min., three of Aug. and three of Dim. triads. If you will proceed chromatically upward from C to C, writing the triad of C Maj., then of C[#] Min., D Aug., E^b Dim., E Maj., etc., the twelve required examples will use every chromatic note of the octave.

KEYBOARD EXERCISES.

Repeat the foregoing exercises in recitation at the keyboard, using the metronome, and reporting accurately upon the speed attained. Do not try to go through the whole of the above in one day. Rather, use it as a drill to be carried from ten to twenty-five days, till facility is gained.

79. WRITTEN EXERCISES.

This is a test for speed and accuracy. Write out in capital letters the notes constituting the following triads, timing yourself accurately by the watch, writing plainly and making no corrections, not even to add a sharp or flat. (You may afterward place a ring around any wrong notes and write the correction outside to show that you understand.) Note the time required for the whole exercise—not for each triad. You may do this exercise *once* as soon as you see this, and then again when the lesson is mastered, to note the progress.

The Test. Write the notes of the following triads: B Min., F[#] Maj., C[#] Aug., A Dim., G Aug., D Aug., G^b Min., C[#] Dim., A^b Dim., B Aug., G[#] Min., D[#] Maj., G^b Dim., D^b Min., D[#] Maj. Remember, no corrections except with rings.

KEYBOARD EXERCISES.

Play the preceding triads, noting the metronome speed attained upon the first attempt and also the last. Do not forget to use the left hand part of the time upon all exercises.

80. VARIETY OF DRILL.

As the study of the formation of triads in their four

forms is to be continued till facility is gained, it is well accomplished by changing the order of the roots; e.g., instead of taking a series whose roots are a whole-step apart, we may pass upward (or downward) a Minor third for the following triad, and continue to pass upward (or downward) a Minor third each time. Then similarly we can progress a Major third each time, or by any desired skip or combination of skips. One of the most useful skips is that of the Perfect fifth, either upward or downward. This develops knowledge which will presently be useful in another way.

KEYBOARD DRILL.

- (a) Following the above suggestion, form a series of Major triads, using one or more of the suggested ways and note the speed attained. In every case include the progressions of the Perfect fifth up and down.
- (b) Form a similar series with Minor triads, choosing a different progression.
- (c) Form a similar series with Diminished triads.
- (d) Form a series with Augmented triads.

WRITTEN EXERCISES.

Write out the series with Augmented triads, progressing by the Perfect fifths upward, then by Perfect fifths downward.

RECITATION.

Recite the series of Diminished triads, progressing by Perfect fifths upward and then downward.

SPECIAL NOTE. If difficulty is experienced with the formation of the different kinds of triads, the drill must be continued daily for some time. Do not expect facility simply by *understanding* them. You must *think* and *do* them many times before the mind and fingers will work quickly. And, further, do not discontinue this drill as soon as the next subject is undertaken, but return frequently to this portion for a review and drill.

81. EAR-TRAINING.

To ask at this point that ear-training be carried on from the beginning of the study of triads is nearly like

the postscript of Pat's letter: "If yez don't receive this yez may know that I'm well." Yet it is desired in connection with the daily study in each and every day's practice. It is especially desired that this be done to make each fact and principle more tangible and real, and that the ear as well as the eye and the understanding may be called into activity.

82. QUESTIONS 17-28, Key, pp. 51-52.

83. ABOUT THE TERM POSITION.

"Position" does *not relate* to the *order* of the notes in the chord, but it relates to the *highest note only*, or Soprano, and *not to any other note*, or to *any order of notes*. The above statement is made *as strong as possible* to ward off any possible misunderstanding, for pupils are very frequently confused about this for some little time.

When a triad is taken with one hand, changing the position does naturally bring about an *apparent* change in the order of the notes, but this change in the order of the inner notes has nothing to do with "position," as will be seen if you use two hands and spread the chord out over three octaves, when you will see that the *order of the lower three parts* may be *freely changed* without affecting the position.

It must be clearly understood, then, that *position relates to one tone only* and that the *highest in the chord*. Read *H. S.*, 96; also *Kzy.*, 96.

84. EAR-TRAINING.

(a) Strike the triad of C Major upon the piano; then listen intently, striving to hear the individual tones constituting the chord, but not striking them individually; try to sing the third and fifth (the top note is always the easiest one). Now strike other triads and try to sing the tones in turn—to commence with the third is to show a good ear.

(b) Similarly sound Minor triads and try to sing their tones.

(c) Similarly sound Diminished triads and try to sing their tones.

(d) Similarly sound Augmented triads and try to sing their tones.

NOTE. These exercises will help you to listen with concentration and intelligence to the different kinds of triads, and will help you to recognize them when played. It is less important that you succeed with those exercises than that you *make the attempt*, and so come to listen more intently, and that you learn *how* to listen.

(e) Play different kinds of triads in different parts of the keyboard, noting the different color of the different kinds of triads, and also how the same kind of a triad gives a different effect in different pitches, which makes the subject more difficult.

By "color" is meant that a Major triad gives the effect of brightness and satisfaction, a Minor triad of sadness or darkness, a Diminished triad of dissonance or compression (the notes are pressed together), and an Augmented triad of most violent dissonance, together with the effect of *expanding*, tearing apart or openness. Observe that both Major and Minor triads are consonant, while Augmented and Diminished are both dissonant but quite opposite in character.

(f) While a second person plays the various triads upon the piano, write out the series given in Lesson 10, §76. If necessary, you may decide as to the character of each one as it is repeatedly played.

NOTE. If a second person is not available, then play these different kinds of triads, with intensely concentrated thought and attention, striving to hear and feel the qualities or colors as described. After reaching this point we should take every opportunity of recognizing the various kinds of triads when listening to music. Such careful listening to music is really the beginning of self-production of musical thoughts. And now we come to the more difficult *Ear-training Exercises*, which will not be done by more than a quarter of the students at the first attempt, and by not more than one-half after many attempts—yet the *attempt is worth while*, even if you fail.

(g) Sound the note C as a root, and while holding this note, sing in succession the root, third and fifth of the Major triad. Do not help yourself by sounding the other tones till *after* the voice has taken the tone and then only to prove the result. Repeat with other notes which lie in the range of the voice.

(h) Proceed similarly with the Min. triads.

(i) Proceed similarly with the Dim. triads.

(j) Proceed similarly with the Aug. triads.

Do not hesitate to carry on the above exercises for three months or even a year, for they are potent influences in developing true musicianship, whether you ever succeed or not. Do not worry about that part.

If you do not readily succeed with the above, a compromise may be made or a preliminary training secured, if a second person will play the various triads in "broken" form while the student endeavors to decide the nature of the triad from hearing it in the broken form. In this way the ear becomes accustomed to hearing the *melodic side of chord building*, which is recognized by but few.

LESSON 11.

TRIADS (Cont.)

85. IMPROVISATION.

This is one of the most important lines of work possible to the Theory student, and should form a *part of every day's practice to the end of the course*. True familiarity with the material of music can only be attained by using, at the keyboard, each new element as it is studied, adding to our working material item by item, until we can use all the ordinary chords freely and almost unconsciously, to express musical ideas. The common fault with efforts in this line is that they do not begin at the beginning, but attempt too many things at once to succeed.

As a child commences his use of language with single words of the simplest character, so will we first use single, disconnected chords in the simplest form without grammatical significance. But this simple work can be invested with real charm, and teachers will find it of the greatest advantage to use the following exercises with all piano pupils, children or adults. For the children the original forms of the exercise were called the "Bounding" and the "Rocking" chords, the reason of which names will be apparent later.

"Bounding" and "Rocking" Chords.

The term "Bounding" chord, as here used, simply denotes the repetition of the chord in a higher octave. There are various ways of performing this chord, one which is shown in Fig. 2 below. (NOTE—The illustration shows the chord in only one key, but it will be played by the student in all keys to gain facility, for which it is one of the most important means yet devised.)

A "Rocking" chord is simply a form of the "broken" chord as shown in Fig. 3.

KEYBOARD EXERCISES.

- Following the illustrations in Fig. 2, form

"Bounding" chords from all the Major triads, progressing upward by half-steps.

(b) Form a similar series, progressing downward by half-steps. As soon as it is fairly familiar, work with the metronome, repeating the more difficult ones as many times as may be necessary, and give a report of the speed which can be attained, playing in quarter and half-notes as indicated in the illustration, one beat to each quarter.

(c) Form a similar series, but progressing by skips of a Perfect fifth each time.

(d) Form a similar series, progressing downward by a skip of a Perfect fifth.

WRITTEN EXERCISES.

Write examples of "Bounding" and "Rocking" chords in at least four keys. Be sure to write them exactly as you play them, for the correctness of the keyboard work can only be judged in this way. Write also all those chords about which you may be in doubt.

"BOUNDING CHORDS."

FIG. 2.

Ped.

*

Repeat in all keys.

"ROCKING CHORDS."

FIG. 3.

Ped.

*

Ped.

*

Ped.

*

Repeat in all keys.

CONNECTION OF " BOUNDING CHORDS."

LESSON 12.

TRIADS: THEIR POSITIONS AND INVERSIONS.

86. NOTE. Before taking up the study of position, the student should understand the terms, *Principal and Secondary Triads* and *Doubling*.

Principal and Secondary Triads.

STUDY *H. S.*, §94.

WRITTEN EXERCISES.

Write the seven triads in the scale of D Major; describe each one as required under the head of Exercises, *H. S.*, §94.

Doubling.

87. STUDY *H. S.*, §95.

WRITTEN EXERCISES.

Write the chord of G Major in four parts in several different ways; that is, doubling different notes, indicating which forms are best and which are poorest.

Position.

88. STUDY *H. S.*, §96; also *Key*, 96.

WRITTEN EXERCISES: *H. S.*, §96.

KEYBOARD EXERCISES.

Following *H. S.*, Fig. 27, as a pattern, play every Major and Minor triad in its three positions.

NOTE. Instead of studying part-writing at this point, the student will skip for the moment from *H. S.*, §97 to §125. We will do this for the purpose of studying the construction of chords more thoroughly before taking up the study of part-writing.

89. EAR-TRAINING.

In the second lesson, §16, the individual qualities of the scale tones were shown. The student will now be able to use this knowledge in determining the different positions of a chord. By listening intently to the upper tones, the quality of either rest or incompleteness may be heard. By singing the upper tone when playing the three positions in succession the quality may become more marked. The student should, however, be warned that this is not an easy matter for a large proportion of musicians, and it may require six months or longer to become proficient in this line. Those gifted with accurate hearing may be able to distinguish almost at the first attempt. It would be well in this exercise if a friend could play chords in different positions.

To "Hear" or Sing Any Required Tone of a Chord When All Are Played Together—Not Broken.

To successfully distinguish the various chords in their different positions and inversions, it is essential that the student should first be able to sing at will any one of the tones of a common chord, picking out any tone from the mass as the chord is sounded with all its tones together. For some persons this is very easy, for others, extremely difficult. Therefore, each student is required to report specifically upon this point, and if any particular difficulty is found, do not try to go on with the next exercise till after several weeks, or even months, of training in this line. The above exercise is one that the student can do with considerable success by himself, striking any chord upon the piano (not forgetting to try the different positions and inversions), and especially striking all the tones together and then trying to sing the different tones of the chord at will, attempting particularly the inner tones, which are more difficult than the highest or lowest tones of the chord.

Positions.

The student will remember that in the second lesson, §16, the individual qualities of the scale tones were discussed, the Tonic being firm, the Third calm and the Fifth bright. By listening carefully, you will be able to tell

which tone of a chord is highest, that is, to determine the position of the chord. Other helps may occur to you, as for example, to try to think how far it is down or up to Doh, or the point of rest; or to notice as you sing the various notes upward or downward, what the intervals are. For illustrations, when the fifth of a chord is highest, it will be a Minor third above the next note below; or if the octave is highest, it will be a fourth above the next highest note, and if you were to add (experimentally) another note above, it would be a Major third. Some people with unusually keen musical hearing can distinguish the positions of a chord without reasoning, but this is not expected of the student. It is a faculty to be gained by hard work and plenty of it.

Inversions.

The principles discussed above will apply equally to the lowest tone in a chord, and the student should give especial attention to the lowest as well as the highest note. When these two tones become clear in the mind it is comparatively easy to decide upon the intervening tones, which will result in a real knowledge of the complete chord. Remember that this work cannot be accomplished in a short time, and those not gifted with especially good hearing should frequently review the simplest exercises of the descending tones of the scale and the simplest intervals, for upon this foundation the ability to hear as well as the ability to construct chords is developed.

90. QUESTIONS 29-31, Key, p. 52.

91. NOTE ABOUT MIXING POSITIONS AND INVERSIONS.

Although students make the statement and believe it, that position refers to Soprano and inversion relates to the Bass, yet when the position is allowed to change with the changing inversion, one is forced to suspect that in the subconscious mind of the student the position is affected by the inversion. This should not be and the student should give careful attention to this point, for it will be met, either in his own study or in his experience as a teacher: think it out carefully.

In teaching and drilling the inversions, you will find a tendency on the part of your pupils to shift the position every time the Bass is changed, letting the Soprano go up as fast

as the Bass does. This will give the wrong impression, for we wish to **CONFINE** the thought to the change in the Bass. Therefore, always require pupils to **keep the same position** as far as possible throughout the different inversions; or rather, ask them to play through the different inversions, first retaining one position, then repeat it with a changed position and so on till each position has been used for all the inversions.

LESSON 13.

INVERSION OF TRIADS.

92. STUDY *H.S.*, §125. Observe particularly the foot-note.

WRITTEN EXERCISES: *H. S.*, §125.

KEYBOARD EXERCISES.

Using two hands, play every Major and Minor chord in its direct form and two inversions, as shown in Fig. 38, *H. S.* Note the speed attained.

NOTE 1. It should be observed that the whole substance of "positions" and "inversions" resolves itself into this: That as the tones of an interval may be inverted without destroying its character, so the tones of a chord may be inverted or used in different orders without destroying the character of the chord; and that the relationships of the different tones of a chord to the root are not essentially altered, regardless of the order in which the tones appear. The student should now review the lessons on the inversions of intervals and trace out the logical connection between the intervals and chords, remembering particularly that **chords are composed of intervals and the intervals give character to the chords**. Therefore, the principles which govern the relationships of the tones of an interval will continue in force when intervals are grouped into chords.

NOTE 2. The student should further observe that in studying positions, inversions and doubling, we have but three tones to consider,—the root, third and fifth which we studied in our first lesson on triads. These three tones, root, third and fifth, may occur in any desired order, but the relationships of the tones one to the other remain unchanged throughout these many different forms.

If these points are held carefully in mind the subject will take a far simpler form in the mind than is otherwise possible.

93. FIGURING TRIADS.

NOTE. Very frequently students become confused when studying the figuring of triads because they forget that there

are but three different notes and *that these notes are not changed* although the chord appears to be quite different.

Further, let us remember that figuring triads is simply a process of showing whether the root, third or fifth is in the bass.

STUDY *H. S.*, §§127-128, also §130.

WRITTEN EXERCISES: *H. S.*, §128. (See *Key*, 128.)

To Find the Root of An Inverted Triad.

94. STUDY *H. S.*, §129.

WRITTEN EXERCISES: *H. S.*, §129. (See *Key*, 129.)

DRILL.

Turn to various simple hymn tunes and find the roots of the inverted chords, and write out the chords (containing not more than three different letters) the roots of which you may be unable to find.

Read *H. S.*, §131, but do not study it, as you will come to it again later on in connection with part-writing.

NOTE. I would like you now to be able to speak of the chord of the "sixth," meaning the first inversion of the chord; or the chord of the "six four," meaning the second inversion of the chord, as those are terms frequently used by musicians. Remember that both the figures and the inversions relate *only* to the bass or lowest note, and do not in the least determine which note shall be highest.

95. EAR-TRAINING.

As you play (or a friend plays) the chords in their different inversions, listen intently to the lowest tone, trying to determine whether a root, third or fifth is in the bass. The different qualities of rest or incompleteness will aid in determining the form of the chord. Remember, however, that with most students it is a work of months to gain facility in these lines. But if you learn to listen more intelligently as you play or hear music, you will find a great gain in musicianship is attained, whether you succeed immediately in this work or not. To aid you in distinguishing the various kinds of triads by hearing, the following may be of assistance.

Instead of trying to measure the tones of the chord by distance or by trying to detect which tone is altered in changing from Major to Minor, Diminished or Augmented, it is better to listen to the general effect or color of the chord and try to notice the individual qualities of each kind of triad.

The first step might be to bring the chord in question into one of the great groups as follows: the Major and Minor triads are restful, that is consonant, as described at the end of Chapter II, *H. S.*, while the Diminished and Augmented triads are unrestful or dissonant and therefore show a decided tendency to progress to some other chord. So, by noticing whether the chords are restful or unrestful, we can reduce them to one of the two classes in each of which there is but one choice. Let us suppose we have decided the chord to be unrestful or dissonant: It must be then either Diminished or Augmented. The Diminished triad gives a sense of narrowness, or smallness, or contraction, and if we listen carefully to the tendencies we will find, if the triad is not inverted (and for the first exercises it should not be inverted) that they tend to approach each other, the upper note to go downward and the lower note to go upward. In the Augmented triad we feel the effect more of breadth, and the tendency of the Augmented fifth is to go upward and to expand. In this way we can distinguish one from the other.

To distinguish between Major and Minor, one way is to listen to the general effect whether cheerful or somber. The Major gives the effect of floating, or of brightness, while the Minor gives the effect of depression, or sadness. Another way to distinguish between Major and Minor triads is to mentally (or audibly) sing the three tones of the triad, beginning with the lowest, when it is quite easy to distinguish whether we are singing 1-3-5 of the Major scale or 1-3-5 of the Minor scale. Experiment along these lines.

96. QUESTIONS 1-29, *Key*, pp. 69-70.

Improvisation.

97. "BOUNDING" AND "ROCKING" CHORDS.

In Lesson 11 the subject of "Bounding" and "Rocking" chords was introduced, and drill was given upon the sim-

pupil forms of the chord. The student should consider this the beginning of a most important work, to be prosecuted daily if he would achieve practical success.

DRILL.

Go over each exercise in the various lessons upon the chords in their different positions and inversions, and make a thorough drill upon each exercise in every Major key, using the metronome if possible, and note the speed attained in each exercise.

WRITTEN EXERCISES.

Write in *one* key, a complete example of each form in which you practiced the above exercises.

KEYBOARD DRILL.

Repeat the above exercises in all Minor keys if you are an advanced student. If found too difficult, this work may be postponed for a time.

98. KEYBOARD DRILL.

Return to *H. S.*, §105 and try to connect the chords there given, continuing the use of the "Bounding" and "Rocking" forms which you have learned. This should be done in all keys including Minor, if the pupil is sufficiently advanced. One example of each kind and of all the forms where special difficulty is found are to be written out.

Using first the "Bounding" and then the "Rocking" chord forms, the pupil should connect chords in the key of C in the following order: 8, 6, 4, 2, 5, 3, 1; that is, connect the chord of C Major with the chord of A Minor, which in turn will be connected with the chord of F Major, which in turn will connect with the chord of D Minor, then to the chord of G Major, then to E Minor, then to C Major. (This is not designed as the conventional Closing Formula, which will come later, but is a practical drill in employing the various triads of the key.)

Repeat this exercise in both "Bounding" and "Rocking" chord forms in all Major, and if possible, all Minor keys.

99. REVIEW AND SYNOPSIS.

At this point the pupil should review triads from the beginning and should write a complete synopsis.

LESSON 14.

PART-WRITING—TRIADS.

Connection of Triads in Simplest Form.

100. STUDY.

Skip for the moment *H. S.*, §§95-101. Study *H. S.*, §§102-104 and *Key*, 103.

WRITTEN EXERCISES.

- (a) Write ten examples, *H. S.*, §105.
- (b) Write five examples. Transpose to other keys.

KEYBOARD EXERCISES.

Do all the exercises in *H. S.*, §105, (a), (b) and (c).

SPECIAL NOTE. This lesson, although very short in appearance, is one of the most important in the whole course and should receive many hours of drill. The ambitious student will do these exercises not only in the key of C but in all other keys. He will also do them with the left hand alone as well as with the right hand, and also with two hands, letting the left hand take the bass part, as illustrated in *H. S.*, Fig 30.

To Connect Triads When There Is No Common Note.

101. STUDY *H. S.*, §§106-108.

WRITTEN EXERCISES.

- (1) Copy the exercises in *H. S.*, §109, and fill up the vacant parts as there required.

- (2) Write the exercises in *H. S.*, §109, (a) and (b).

KEYBOARD EXERCISES.

Do the exercises in *H. S.*, §109, as shown in Fig. 32. Also §109, (a), (b) and (c). See *Key**, p. 33, Fig. 32.

*HOW TO USE THE "KEY."

SUGGESTION.

- (a) In doing part-writing, it is desirable to use three staves for each exercise; write the bass upon the lower one of the three, your own setting upon the middle staff, and reserve the upper staff for the *Key*, copying in from the *Key*.

102. STUDY *H. S.*, §§95-101; also *Key*, pp. 29-32.

WRITTEN EXERCISES.

Now go over the written exercises already completed for this recitation, examine to find the consecutive fifths and octaves, and correct the same as best you can.

103. QUESTIONS 6, 7, 8, 13, *Key*, p. 71.

only those chords which differ from your own setting. Be sure to have the bar lines go through the three staves, so that the copied chords from the *Key* will be over the proper bass notes. This plan not only brings the *Key* setting into proper place for easy comparison with your own but it is essential for future reference and study. It also makes it easy to discuss the advantages of one setting over the other and it makes a deeper and more musically worker of yourself.

(b) Pupils are placed upon their honor not to consult the *Key* until after the part-writing or other exercises under consideration are completed. Then as the next step they are to compare their work with the solution in the *Key*: *Note each difference and give the reason in writing.*

- (1) For the superiority of the setting in the *Key*;
- (2) For the (possible) superiority of his own setting;
- (3) For the acceptability of both settings, if possible; and if you think a still different setting could be used, tell why.

This process saves the teacher time in the routine clerical work of writing out a correct solution and brings the discussion right to the points of difficulty; making possible a much more thorough and searching discussion of underlying principles than is possible in re-writing an incorrect exercise. To make such discussion with a class is most educational. This removes the danger of the pupil's having a *Key*, for its use becomes a part of the educational process and forces him to find underlying reasons and principles.

LESSON 15.

PART-WRITING—TRIADS (Cont.)

104. NOTE.

We now come to a new department of our work—the only one recognized in older methods, but which is only one of several important departments in their course. "Part-writing" means writing chords from a given bass or from a given melody, the latter being commonly called "Harmonizing Melodies."

The older methods gave us many positive rules, chiefly prohibitions, for part-writing, and then furnished so many exceptions to each rule that the average student became bewildered and lost all confidence. In this course it will be attempted to *show the principles which govern* not only the applications but also the exceptions to the rules. But the student must remember that skill in part-writing is less a matter of rule than of judgment, or a balancing of one force against another,—a steering one's boat along a channel filled with obstacles, where in steering around one rock we must be careful not to collide with another.

The work in part-writing is in a certain sense like a review of the subject, since we return to the subject of triads and cover the same ground as before, but with a different end in view. While the exercises in part-writing are being carried on, the student should, without fail, make a thorough review of all the constructive work at the keyboard covered in the previous lessons. These exercises should now be carried into more difficult keys, and higher speed and more accurate thinking should be required.

STUDY *H. S.*, §§161-169; also *Key*, pp. 64-67.

NOTE. The above pages should give the student a general idea of the principles of part-writing which will make the corrections of the written work more intelligent.

REVIEW *H. S.*, §§95-114.

WRITTEN EXERCISES.*

(a) Write the exercises in *H. S.*, §115. Compare with *Key*, pp. 33-34. (For best results, do not consult *Key* until all the exercises are written.)

(b) Write the exercises in *H. S.*, §116, then compare with *Key*, pp. 86-88.

How to Discover Consecutive Fifths and Octaves in the Written Work.

105. Very frequently students do not know how to go to work to find consecutive fifths and octaves in the written exercises. The following will be found of great assistance: A consecutive fifth or octave implies that the interval of a fifth or octave shall have appeared between the same voices in two consecutive chords. The first thing is to understand what the term "same two voices" means. It is this: If between the Bass and Tenor of a chord the interval of a fifth is found, and the same interval is found between the same two voices in the next chord following, consecutive fifths have been formed. On the other hand, if in the first chord the fifth is between the Bass and Alto, while in the second chord the fifth is between the Bass and Tenor, they cannot be called consecutive fifths, since consecutive fifths require that the interval shall be found between the *same* two voices in consecutive chords. (Of course, in the above illustration other voices than Bass or Tenor could be used. The chief point is, that whichever voices have the octave or fifth in the first chord, must have it in the next chord to make the fifths or octaves consecutive.)

The student should remember especially that a fifth in a single chord is not wrong, nor are octaves or fifths

*NOTE TO TEACHERS.

The work in part-writing should be even more personal and individual than the preceding work, for the exercises written by the student must be carefully corrected.

NOTE TO STUDENTS.

Part-writing is a matter of *facility*, and we need to do work not only correctly, but quickly. The best way to gain the desired results is to take a limited number of exercises, not more than six or eight, and write them once through. The next day do the same work without reference to the work of the day before. Repeat this *every day for a week*. Remember that your progress is not measured by the length of the lesson but by the way in which it is studied; that is, by *repeated workings of each exercise*.

wrong in two successive chords, but—and here is the great point—they must not appear between the *same voices* in both *chords*.

SPECIAL DIRECTIONS.

When writing an exercise, as soon as each exercise is written the student should stop and examine the progression from the previous chord somewhat as follows:

Are there consecutive fifths or octaves formed between Bass and Tenor?

Are there consecutive fifths or octaves formed between Bass and Alto?

Are there consecutive fifths or octaves formed between Bass and Soprano?

Are there consecutive fifths or octaves formed between Tenor and Alto?

Are there consecutive fifths or octaves formed between Tenor and Soprano?

Are there consecutive fifths or octaves formed between Alto and Soprano?

In this way the student will learn to watch the leading of the voices almost unconsciously and so avoid the pitfalls of consecutive fifths and octaves.

STUDY *H. S.*, §§97-111, and *Key*, pp. 29-32.

106. QUESTIONS 1-5, *Key*, p. 71.

LESSON 16.

PART-WRITING—TRIADS (Cont.)

107. After writing the exercises required in Lesson 15, the student is urgently advised to read again *H. S.*, §§95-114, and §§161-169; *Key*, pp. 29-32, 64-67.

WRITTEN EXERCISES.

Write the exercises in *H. S.*, §120. (See *Key*, p. 42.)

To Avoid the Augmented Second From 6 to 7 of the Minor Scale.

108. STUDY. Students often have difficulty at this point, so the following statements must be as *emphatic as possible*. To avoid the Augmented second, the seventh must be approached from above; or at least if from below it must be by a skip; that is, we must not proceed directly from 6 to 7. Please heed this. We can go from 5 to 7, but not from 6 to 7. It is, however, better to go from 8 to 7.

If you find that you have made this mistake you can correct it by *changing the voice that moves to 7*. For example, take the chord D-F-B, followed by E-G \sharp -B, here you see the Alto of the first chord, F, has moved an Augmented second to G \sharp in the second chord; to correct this, let the Soprano proceed to G \sharp and let the Alto go downward, making the second chord B-E-G \sharp . Now you will see that we have followed the rule to let a different voice approach 7. You will see that the Alto which in the first example made the Augmented second upward, now makes a half-step downward. Do not be confused by the fact that G \sharp is in the second chord and F is in the first chord. This does not make the Augmented second unless the same voice sings both tones.

READ *Key*, p. 43, and do the Additional Exercises as outlined.

WRITE the exercises from the Figured Bass in *H. S.*, §123. (See *Key*, 123, pp. 43-49.)

109. KEYBOARD EXERCISES.

Working from the Bass in *H. S.*, §§115-116, try to play the required chords with the right hand. Work slowly at first and try to make the individual voices move as smoothly as in the written exercises.

110. SPECIAL NOTES.

(1) *Doubling the Third.* One of the most frequent difficulties encountered by the student is to know when to double the third in a chord and when not to do so. The question is thoroughly answered in *H. S.*, §§162-166, and in *Key*, 162-166, pp. 64-66.

(2) *Concerning the Rule Which Required the Common Note to Remain in the Same Voice.* This difficulty is frequently encountered but will be conquered in a very short time. Study *H. S.*, §167, carefully. Sometimes by changing the position of a previous chord, the common note may be so managed as to remain in the same voice, but it frequently happens in a cadence (the chord of the Dominant seventh followed by the Tonic) that this rule must be broken. Read pp. 35-36 in *Key*.

(3) *How to Choose Between Two Possible Progressions.*
 (a) Look ahead to see how the following chords will take shape, measuring the comparative smoothness of the two ways.
 (b) Study the tendencies of the individual tones contained in the chord, particularly of the outer voices. It is quite possible that the progression in which the tendencies of the individual tones are best observed will be the better progression. But in this progression do not forget the "Tendency of Continuity" as that very frequently overrules the melodic tendencies of the tones of the chord.

Hidden Fifths and Octaves.

111. NOTE 1. Students frequently have trouble to discover consecutive or hidden fifths and octaves in their work unless especial attention be given to the point. Let us begin with a conventional definition of the term "Hidden Fifths."

Definition. "When two voices, moving in the same direction, arrive at the interval of a fifth, Hidden Fifths are produced." (The student will please learn the foregoing definition by heart.)

NOTE 2. Tests in the classroom prove conclusively that with such a definition as the above not one student in five will get a complete and correct impression until the individual points are brought out by the teacher's questions. Read the

above definition carefully and then see if the points mentioned below are already in your mind, or whether the following description helps to give a clear impression.

DESCRIPTION OF THE ABOVE DEFINITION.

(a) "When two voices." Note that two voices are indicated. By this is meant, not that any two voices may start to progress in the same direction and some *other* voices arrive at the interval of a fifth, but that the same two voices shall progress in a similar direction and arrive at the interval of the fifth.

(b) "Moving in the same direction." It will never be a hidden fifth if two voices, moving by contrary or oblique motion, strike the interval of a fifth.

(c) "Arrive at the interval of a fifth." This does not mean that the first of the two intervals may be a fifth and the second interval something else, but that the first shall be "something else" and the latter of the two intervals shall be a fifth.

NOTE*. Many students do not thoroughly understand hidden fifths and octaves. A hidden fifth occurs where two notes which are not a fifth apart moving in the same direction rest upon a fifth. For example: Play the notes D-B. If B moves upward a half-step to C, and D moves upward two degrees to F, a hidden fifth will be produced. Note the following points:

(1) The notes must not be a fifth apart, since there would be open or consecutive fifths if the interval of a fifth were found both in the first and last interval.

(2) They must move in the same direction; that is, both must go up or both go down. If two notes moving in contrary motion should arrive at the interval of a fifth it could not be considered a hidden fifth.

Further, if one note should remain still and the other move to the interval of a fifth, it could not be considered a hidden fifth.

(3) The second of the two intervals must be the fifth, not the first.

SPECIAL NOTE.

It should be remembered that all hidden fifths and octaves are not faulty. On the contrary, many hidden

* From special lessons to pupils, 1913.

fifths and octaves must be used else the progression will be angular and awkward. The faulty hidden fifths are:

(1) Those in which both parts skip (where one voice moves diatonically the hidden fifth or octave is usually agreeable and therefore allowed);

(2) Those which in their effect contradict the melodic or the harmonic tendencies (the effect is likely to be disagreeable and therefore faulty).

The student should read *H. S.*, §§134, 163, 165; also *Key*, 134, pp. 62-64.

NOTE*. Hidden octaves and hidden fifths are not always bad. To avoid them in every case will often result in producing worse faults in the awkward progressions arising. There are many rules in various books concerning which hidden octaves and fifths are permitted and which are not permitted. The following to my mind covers the ground with sufficient thoroughness for all practical purposes:

(1) Hidden fifths or octaves in which *both* voices skip are not good and should not be used. In connection with this point, it should be remembered that the outer voices are more prominent than the inner voices, and that which might sound badly in the Soprano is sometimes quite satisfactory when found in the Tenor or Alto.

(2) Where the natural melodic tendencies of the scale tones are disregarded, the effect of the hidden fifth or octave is usually not good, and such hidden fifths or octaves should not be employed. It may be observed that the natural tendency of a scale tone is brought more into prominence by the hidden fifth, or octave, and that which might have passed unnoticed under ordinary circumstances is developed through the doubtful progression into a positive fault. So it is my plan to judge the hidden fifths and octaves by the above tests, whether both voices skip, and whether any tendency is violated. If these tests are met I admit the hidden fifth or hidden octave as correct.

EXERCISES. Write three examples showing hidden fifths, making as much variety in the form as you can.

Hidden octaves are described similarly to hidden fifths.

EXERCISES. Write three examples of hidden octaves.

Should you, after this, fail to understand thoroughly

* From a special lesson to a pupil, 1913.

the hidden fifths and octaves, read the above twice carefully. Also study again *H. S.*, §184, and *Key*, 184, pp. 62-64.

COLLATERAL READING.

112. (1) Statement. Broken Chords. The notes of a chord, instead of sounding together, may be given in succession, and in any desired order, with any desired duplication of notes, and through as many octaves as desired. For example, an arpeggio is simply a broken chord led through several octaves. Similarly, the left hand, in much piano music, performs chiefly broken chords. It is important to realize that these extended forms are usually nothing more than simple chords.

(2) Exercises.

(a) Form examples of as many different figures in broken chords as possible.

(b) Look for examples of broken chords in instrumental music.

(3) Statement. *To find the root of an inverted triad or chord of the seventh.* Continue to invert (try in different inversions) until the intervals of a third and fifth are found for the triad, or of a third, fifth and seventh for a chord of the seventh. The lowest note will then be the root of the chord.

OBSERVATIONS.

(Study the following with special care.)

(4) Of Chord Individuality. It should be noted that the *identity* of a chord is not destroyed by inversion, or by adding more notes, although the characteristic form and appearance of the chord may be entirely altered. The principal chords of a scale retain their relative importance, whether appearing in the form of a triad, chord of the seventh, chord of the ninth, Diminished seventh or Augmented sixth. Similarly, an unimportant chord retains its relative condition in any of the above mentioned forms. So the individuality of a chord is never lost.

(5) Of Chord Connections. Governing the connections and use of common chords, there appear to be several important influences at work, somewhat as follows:

(a) There is a *physical connection* between different triads or common chords, regardless of their association in a key, which is caused by the fact that there are notes common to both chords. (NOTE. It is largely owing to this fact that different keys, apparently unrelated, can be connected in a smooth manner.)

(b) There is a latent connection or relation between chords which have no common note or notes, when they are members of the same key. (NOTE. It is this fact that explains the connection of two triads which have no note in common, as for example, in connecting the triad of C Major with that of D Minor, the first and second degrees of the key of C.)

(c) There is a certain conventionality about the succession of chords, which seems to proclaim certain progressions good and others bad. That which makes many progressions disagreeable, and forbidden in Harmony text-books, is that some harmonic or melodic tendency is thereby violated. (The writer will attempt to show later how the melodic and harmonic tendencies already described control all of the regular resolutions in music, and also explain the origin and reasonableness of many otherwise inexplicable rules of harmony.) This conventional line of progression of chords may be compared to the idiomatic form of language, where certain expressions, in themselves perfectly correct, seem strange, for the reason that they do not follow the idiomatic form. When the student appreciates this conventional form of expression he will be able to comprehend many things which are not fully clear as the operation of principle.

(d) The writer is inclined toward the belief that tonality, or key, is largely the result of the *natural affinity of certain chords for each other*, and not the contrary, i.e., that chords are related for the reason that they happen to be in the same key. This presumption is illustrated most forcibly by the fact that in the development of music the feeling of tonality was exceedingly vague, as well as the use of signatures, until the chord of the Dominant seventh was introduced. The use of this chord, although against the judgment of the musicians of the day, brought a distinct impression of tonality.

(6) Of the Correlative Character of the Different Chord Forms. Referring to *Collateral Reading*, §58, (7)-(8), it is found that Major intervals when inverted

become Minor, Minor become Major, Diminished become Augmented, and Augmented become Diminished. Further, it is found that Major and Minor, and Augmented and Diminished, are correlative terms; that is, when a Major interval becomes Minor by inversion, it remains in the same class as before; i.e., if the given Major interval is consonant, its correlative Minor will also be consonant, while if the given Major is dissonant, its correlative Minor will be dissonant. And similarly, the Augmented and Diminished intervals are correlative. Applying the foregoing to the structure of chords, it will be noticed that when a triad, for example, is inverted, some of its component intervals are thereby inverted. But as the inversion of an interval does not alter its quality of consonance or dissonance, so the inversion of a chord does not alter its quality of consonance or dissonance, on account of this wonderful correlative quality in its component intervals. To illustrate this point, consider the simplest triad, C-E-G. C-E is a Major third, which by inversion becomes a Minor sixth, E-C. Now, if the Major third and Minor sixth were not both members of the consonant family (or if they were not correlative), the inversion of the triad would change it from a consonant to a dissonant triad, and so change all its relations with other chords. It is by such facts as the above that a clear impression is gained of the symmetry and logical completeness of the structure of music.

(7) Frequent reviews of the subject, independent of any interruption, are of great assistance in keeping in mind the thread of thought, the logical development of one principle from another. A most important aid in a review is to make a careful synopsis of each subject; that is, of scales, of intervals, of triads. Illustrations of these synopses may be found at the end of several chapters of *H. S.* and the *Key*. It is not necessary to construct a synopsis from memory, but rather from the text, comparing one section with another, until the relations of the parts to each other are discovered, and the logical outgrowth of one thought into another is understood. Facts and principles do not stand alone, but one leads to another, making a chain of logic, which, when understood, is perfectly simple. This is most particularly the case with our subject, and the student is urged to find this thread, which will make this a most fascinating and profitable study.

(8) Exercises. (a) Refer to the previous lessons, read the text carefully and thoughtfully, and do every exercise, choosing, if possible, different keys from those used before.

(b) Make a synopsis of scales, of intervals, and of triads, first referring to the examples mentioned above, and then proceeding from the text. Afterward compare with the synopses in *H. S. and Key*. (N.B. Work of this nature will greatly assist the memory in retaining the foundation principles of harmony.)

(9) Exercises. Drill yourself in the formation of various intervals and triads, in every key, continuing until perfect familiarity and good speed are attained. (N.B. This familiarity with the formation of all kinds of triads is indispensable in the more complicated forms of later study, for if the simple forms are not under control the larger forms developed from them will simply be impossible in any practical and useful sense.)

(10) In the drill for review, particular attention should be given to the connection of triads. Unlike other methods of harmony study, it is here intended that the student shall learn to connect triads at the keyboard. This is a direct step toward the realization of one of our subjects: viz., to be able to use the knowledge of the theory and structure of music. Detailed directions of much value to the beginner in chord connection may be found in *H. S. and Key*.

(11) Exercises. (a) Taking the different keys in turn, connect the triads upon the first degree with the triads on as many other degrees of the same key as possible.

(b) Connect the triad on the second degree with as many other triads in the same key as possible.

(c) Continue similarly from each of the remaining degrees of the scale and repeat in other keys.

113. QUESTIONS 9-12, 14-29, *Key*, pp. 71-72.

(In Lesson 27 you will later be asked to answer Questions 14-29 more completely.)

LESSON 17.

PART-WRITING—TRIADS (Cont.)

114. Following the directions about using the *Key* (see Lesson 14), write Exercise 1, *H. S.*, §133, compare with *Key*, p. 57 and write your opinion of *every point of difference* immediately under your work. Proceed similarly with the remaining exercises of §133.

Should you find any difficulty in interpreting the figures, refer to the *Key*, p. 54, and study pp. 54-56, giving especial attention to the exercises there found.

LESSON 18.

PART-WRITING—TRIADS (Cont.)

115. In future each part-writing exercise as soon as completed should be compared with the *Key* and your observations made upon each point of difference, as shown in the directions on "How to Use the Key," Lesson 14. Following this plan, work the exercises in *H. S.*, §134.

N.B. Do not harmonize the scales at present. This is designed for a later lesson.

A Little Lesson in Transposition.

116. The secret in transposition is to recognize locations in the key and to be able to express corresponding locations in any required key. The proper preliminary study of the relative names (Tonic, Super-tonic, Mediant, etc.), or of the scale degrees (first, second, third, fourth, etc.), and the subconscious recognition of these relative names will go far toward making transposition easy. Commence with the transposition of melodies. If the melody can be carried in the mind and mentally or audibly sung while being written it will make the best possible drill. Let us take for example the melody of "Old Hundred." Expressed in figures (without the rhythm) it will be: 1, 1, 7₁, 6₁, 5₁, 1, 2, 3; 3, 3, 3, 2, 1, 4, 3, 2; 1, 2, 3, 2, 1, 6₁, 7₁, 1; 5, 3, 1, 2, 4, 3, 2, 1.

The pupil should first mentally sing this through, trying to associate the numerals with the tones of the melody and with the notes, as written, for example, in the key of G. After doing this try to write it in the key of F, mentally singing the melody with the appropriate numbers. Now write it successively in every Major key—first without the signature, that is, writing in each sharp or flat as required, and afterward writing the signature in its place. Similarly write in four different keys two different melodies, for example, "Old Folks at Home" and "Yankee Doodle."

LESSON 19.

CHORDS OF THE SEVENTH.

117. STUDY *H. S.*, §§147-149, and *Key*, 147, p. 73.

COLLATERAL READING. §122, (1)-(6) inclusive.

SPECIAL NOTE. Remember that in forming chords, alternate letters are used. This applies to chords of the seventh just as much as to triads.

DRILL.

What letters are required to build a chord of the seventh upon each of the following notes used as a root (remember that sharps and flats are not required, but only the letter name): G? D? B? F? A? C? E?

NOTE. As chords of the seventh may be built upon each and every note of the scale, it is necessary to become practically familiar with this point, through the following.

EXERCISES. *H. S.*, §148, (a), (b), (c); write.

Compare the various chords of the seventh in the key, as described in *H. S.*, §149, and required in the following.

118. EXERCISES.

Analyze all the chords of the seventh in the key of G, describing in each case the third, fifth and seventh (that is, stating whether Major or Minor, etc.).

OBSERVATION.

The student should observe that the chord of the seventh upon the fifth degree of the scale is more agreeable and satisfactory than the others. The fifth degree of the scale is called the *Dominant*, and the chord of the seventh upon the fifth degree is called the chord of the *Dominant seventh*. (The reason for this term "Dominant" will appear in a later lesson.)

119. KEYBOARD EXERCISES.

Form the chords of the Dominant seventh in every key, proceeding systematically from key to key. Note specifically whether you can strike all the notes of the chord instantly, or whether you hesitate in some of the keys. Use the metronome.

WRITTEN EXERCISES.

Write the chord of the Dominant seventh in every key. Be sure that the chords you play correspond with the written forms.

120. EAR-TRAINING.

(a) Play a Major triad and *immediately* afterward add the Minor seventh, changing it into a chord of the Dominant seventh. Note very carefully, the restfulness of the triad and the lack in the chord of the seventh.

(b) Ask a friend to play triads and chords of the seventh while you try to distinguish one from the other, by observing the quality of rest or its absence.

(c) Listen very intently for this point when hearing music performed.

121. QUESTIONS 1-10, *Key*, p. 81.**COLLATERAL READING.**

122. (1) The chord of the seventh may be said to represent, as a type, the great family of dissonant chord structure. As such the chord suggests motion, as contrasted with the rest of the consonant triad. (See *Collateral Reading*, §66, [2]-[4].) It represents labor, and strife, and longings, which are satisfied when it is "resolved" or led in a natural way into the condition of consonance.

For the student, as for the scientist, it forms one of the most important parts of harmony study, for it epitomizes within itself most of the principles of musical structure and the relations of the tone world. Think about this last statement.

(2) Construction of the chord of the seventh. Statement. It is formed from the triad by adding another tone, following the previous order of adding tones by successive thirds. (See *Collateral Reading*, §75, [2]-[3].)

It will have, as a result of this building, *four different tones*, and will therefore *always* be dissonant, three *different* tones being the limit of consonant combinations.

(3) Statement. A chord of the seventh, like the triads, may be formed upon each and every note of the scale. The chords formed upon the different degrees will differ in their character, just as do the various triads of the key, and for the same reasons: viz., that the constituent intervals differ. For example, the chord of the seventh upon the first degree of the scale of C, composed of the tones C-E-G-B, has a Major third, a Perfect fifth and Major seventh, while the chord of the seventh upon the second degree of the same key has a Minor third, Perfect fifth and Minor seventh, otherwise described as Minor triad with Minor seventh. Other degrees of the scale will exhibit other forms, the Minor scale showing some that are extremely disagreeable in their dissonance. This differing character in the various chords of the seventh should not be considered a defect in the system, but a great excellence, for differing characteristics are requisite in music as in social life.

(4) Observation. Some chords of the seventh, while called dissonant, are still very pleasant to the ear. This is explained by the fact that a dissonance does not necessarily represent a discord, but the quality of unrest or incompleteness, as shown in *Collateral Reading*, §66, (2).

(5) Statement. In the following exercises only scale tones should be used, regardless of the effect or form of chord which results. These chords must all be *in the key*, and this is only possible when every tone belongs to the scale.

(6) Exercises. (a) Taking in turn each degree of the scale of C Major as a root, form a chord of the seventh, and describe as shown above in (3).

(b) Proceed similarly in all other Major keys.

(c) Proceed similarly in all Minor keys.

LESSON 20.

CHORDS OF THE SEVENTH (Cont.)

Different Positions of the Chords of the Seventh.

123. NOTE 1. It is thought best to take the different positions and inversions of the triads—or to learn thoroughly to construct the chords in different forms—before taking up the subject of the resolutions. For this reason we will skip over a few pages of *H. S.*, returning to them after a few lessons.

NOTE 2. As with triads, the chords of the seventh may appear in different positions; that is, different notes may appear in the upper voice. Positions are named similarly to those of the triads: position of the third, position of the fifth, position of the seventh and position of the octave.

WRITTEN EXERCISES.

Write the chord of the Dominant seventh upon G in its four positions, marking each one and using two staves.

KEYBOARD EXERCISES.

Using two hands, play the chord of the Dominant seventh on G in its different positions, naming each position as played. Proceed similarly with all other chords of the Dominant seventh, moving either chromatically through the octave or following the circle of fifths.

SPECIAL NOTE. Be careful to distinguish between the Dominant *in* the key and the Dominant *on* a given root; for example, the chord of the Dominant seventh *in* the key of G is very different from the Dominant seventh *on* G. The Dominant *in* the key of G is D-F#-A-C, while the Dominant *on* G is G-B-D-F.

124. KEYBOARD EXERCISES.

It is comparatively easy to play the different positions of the chord of the Dominant seventh when taken in regular order. It is more difficult to take any required position without having previously played through the

various positions of the chord. To gain facility in this department the student should take one position (for example, the position of the third), and play every chord of the Dominant seventh in this position without having previously played it in its natural form of 1-3-5-7. This exercise should be practiced by taking successive chords, following the circle of fifths. Similarly practice the chord in the position of the fifth; in the octave.

Note metronome speed attained in all of the above exercises.

SPECIAL NOTE. If the pupil has any difficulty in finding the various positions of these chords, he should first do the above exercises in writing before proceeding with the keyboard drill.

Inversions of the Chords of the Seventh.

125. As with the triads, chords of the seventh are used in their various inversions.

STUDY *H. S.*, §172.

WRITTEN EXERCISES.

Write exercises as given in *H. S.*, §172.

KEYBOARD EXERCISES: *H. S.*, §172.

Combining the Various Positions and Inversions.

126. KEYBOARD EXERCISES.

Taking the position of the octave, play the chord of the Dominant seventh on G in all its different inversions, making with the direct form, four different forms of the chord.

Next, take the chord in the position of the third and play it in all its inversions.

Next, proceed in the position of the fifth, then in the position of the seventh, taking all inversions with each position.

Next, let us invert the foregoing process by taking the direct form (Root in the bass) and playing the chord successively in its different positions.

Next, taking the chord in the first inversion (with third in bass) play with this bass all the different posi-

tions. Proceed similarly with the second and third inversions.

Repeat the above with all the chords of the Dominant seventh.

SPECIAL NOTE. Advanced students in playing above may try to avoid doubling the third of the chord; that is, when the third is in the bass, try to omit it from the upper parts.

NOTE. The pupil should write the above exercises complete in *one key*.

127. KEYBOARD EXERCISES.

It becomes increasingly difficult to combine any required inversion of the chord of the seventh with any required position of the same. The following exercises will therefore require continued drill, possibly for several months, in order to gain real facility.

(a) Play the chord of the Dominant seventh upon the root D in the first inversion and position of the fifth.

(b) Similarly, play the chord of the Dominant seventh on the root D in its second inversion and position of the third.

(c) Similarly, play the same chord in the third inversion and position of the octave.

SPECIAL NOTE. Remember that *inversion* relates to the Bass (or left hand), while *position* relates to the Soprano (or highest note in the right hand). It will therefore be less confusing in the following exercises to think first: "What is the chord?" (i.e., name to yourself the notes required for the given chord). For example, if some inversion and position of the chord upon the root G is required, it is well to think of the letters forming the chord (G-B-D-F) before commencing to think of the required inversion and position. Next, think of the required inversion. For example, taking the same chord, the second inversion will bring D as the lowest (or left-hand note). Next think of the position. "Position of the third" would bring B as the highest note in the above chord. The reason for the above is that if the student is required to do two or three things at one time he will probably do none of them well. It is better to attack the obstacles one at a time. Therefore, in placing chords of the

seventh in different inversions and positions, we think (a) "What are the notes of a chord?" (b) "Which inversion?" (This places the left hand in position.) (c) "Which position?" (This places the highest note.) Then we proceed to "fill in" the inner voices.

128. KEYBOARD EXERCISES.

(a) Beginning with the chord of the Dominant seventh upon the root C and proceeding through the circle of fifths, play each chord in the first inversion and the position of the fifth.

(b) Similarly, play through the circle of the fifths the chord of the Dominant seventh in the second inversion and position of the octave.

(c) Similarly combine the third inversion with the position of the fifth.

(d) Similarly combine all positions and inversions, working through the circle of fifths.

NOTE. Do not attempt to take this complete drill at one time, but spread it over several days, and continue through a long period. Facility in the above is one of the most necessary lines of work for those who would attain real success in the use of chords.

129. QUESTIONS 11-15, *Key*, pp. 81, 83; 1-12, *Key*, pp. 91-92.

Where There Are Two Sets of Figures Over One Bass Note.

130. Observe the following points carefully:

(1) See *H. S.*, §131, especially (d) and (g).

(2) When no figures are given, the Common Chord is intended. (*H. S.*, §131 [a].)

(3) When following or preceding other figures, the figures 3-5-8 in any combination are used to indicate the common chord as shown in the illustration, *H. S.*, §131 (g).

(4) It should be observed that some figures must be given, otherwise the six-four chord would have necessarily continued for the whole time.

(5) Observe further, that instead of two sets of figures over one bass note, it would be possible to divide the

bass note into two shorter notes, connecting them by a tie and placing one set of figures over each note. This would amount to the same thing as having two sets of figures over the one longer bass note; and this is really what is meant by the two sets of figures—two different chords in succession which chance to have the same bass note.

EXERCISES.

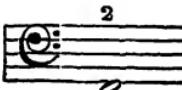
Write out in *three positions* each of the following exercises:

FIG. 5. A



(6) 2 means chord of the seventh (its third *inversion*). The 2 is enough to give a clue to the whole chord. For example:

B



The figure 2 means here the second from F, which is G. Now G and F can get into the same chord only when the inversion of this chord is F-G-B-D. From F to G is a second, there is a chord of the seventh, G-B-D-F, and the inversion shown by the figure 2. Now two successive letters like F-G can only occur in an inversion of a seventh chord; and the upper one of the two letters is always the root of the chord.

It is the same way when we find two successive figures as $\begin{matrix} 4 & 6 \\ 3 & 5 \end{matrix}$; the note indicated by the upper figure will be the root of the chord. This makes a very short and easy way to find the root of an inversion of the chord of the seventh; and after we have the root of any chord, it is easy to add the other tones. The figure 2 really indicates two successive letters since the figure 1 is always "understood"; it is the bass note itself and therefore requires no figure. When the figure 2 is given, the note indicated by the "2" will therefore naturally be the root.

The figuring of chords is a kind of musical shorthand writing: as much as possible is omitted, leaving just enough to give a clue to the chord.

COLLATERAL READING.

131. (1) Positions and Inversions of Chords of the Seventh. Statement. As with triads, the chords of the seventh are used in all positions and inversions. There will necessarily be four different positions and three inversions in addition to the direct form, as the chord contains *four* tones and each may become in turn the highest or lowest note. (For illustration of positions and inversions, see any text-book on harmony.)

(2) Observation. The most important training in the whole study of harmony, the one that holds the key to all use of the knowledge at the keyboard in improvising and modulating, as well as of all success in later studies, is that of forming the chords of the seventh in *every key*, in *every position* and *inversion*. He who can do this need fear no difficulties to come.

(3) Exercises. (a) Taking in turn each chord of the seventh in the key of C, place it in all its different positions, while keeping the left hand on the root note.

(b) Similarly combine each position of the above with every inversion, by keeping the right hand upon the same position of the chord while forming the different inversions with the left hand.

(c) Proceed similarly in all Major and Minor keys. (In this exercise is sufficient material for several months of study.)

(d) Without referring to the keyboard, recite the chords of the seventh in their different inversions.

(e) Make thorough drill at the keyboard in forming quickly any required position and inversion of any seventh chord; e.g., What is the second inversion of the chord of the seventh upon the root E (in the key of C)? To answer this, the student should quickly play the notes B-D-E-G.

(4) Important Observation. The student should give especial attention to forming and recognizing the chord of the seventh which is found upon the fifth degree of every scale, called the Dominant, for this is the most important and most frequently used chord in music.

LESSON 21.

CHORDS OF THE SEVENTH (Cont.)

Consonance and Dissonance as a Principle.

132. **NOTE.** This is one of the most important points in the study of Theory. Work slowly and go over this part repeatedly, trying to absorb it point by point.

STUDY *H. S.*, §§149-151; also *Key*, 150, p. 73.

COLLATERAL READING, §137, (1)-(2).

IMPORTANT NOTE. By this great principle we can divide the whole of the material of music into these two divisions, and so simplify the theory of music in a marvelous way. Since the Independent Chords are treated in just as definite (though different) a way, consequently, when we determine the character of a chord, the appropriate treatment of that chord will follow as a matter of course.

Let us next proceed to find, through analysis of chords, how they are to be treated. First, let us make sure that the proceeding is clear by answering at this point:

- (a) How many chords of the Dominant seventh may be found in any one key?
- (b) Describe the intervals required to form a chord of the Dominant seventh.

133. STUDY *H. S.*, §§152-155; also *Key*, pp. 52-53, and 153, page 74.

COLLATERAL READING, §137, (3)-(4).

134. QUESTIONS.

- (1) State which are "Principal" and which are "Secondary" chords of the seventh.
- (2) What is the difference in construction between a chord of the Dominant seventh and a chord of the seventh upon the second degree of the scale?

135. NOTE.

It is not necessary in the following exercises to find and describe the interval of the Minor seventh, which is present in each chord, but each Augmented and Diminished interval should be found and described, and the proper resolution indicated.

WRITTEN EXERCISES.

Describe each dissonant interval and tell how it should resolve in the following chords: D-F#-A-C; Bb-D-F-Ab; E-G#-B-D. Proceed similarly with other chords of the Dominant seventh, until you can easily find the dissonant intervals.

KEYBOARD DRILL.

Take in turn the following chords; while holding down the keys, find and describe each dissonant interval: G-B-D-F; F-A-C-Eb; A-C#-E-G; B-D#-F#-A. Continue till the dissonant intervals are easily and quickly found.

The Principle of Tendencies.

136. STUDY *H. S.*, §§152-155; also *Key*, pp. 52-53 and 153, page 74.

COLLATERAL READING. Study carefully §137, (3).

Definition. The process of passing from a dissonant to a consonant interval is called "resolving" the dissonant interval. We can now speak of resolving the following intervals.

WRITTEN EXERCISES.

(a) Write the interval of a Diminished fifth from C and let it progress, as shown in *H. S.*, Fig. 43, to the nearest consonant interval, which will be a Major third. Observe that each tone moves only a half-step to the next tone. Observe also that in this progression the letter always changes; for example, C goes upward a half-step to Db, not to C#.

Similarly write the Diminished fifth upon C# and resolve it as above. Proceed similarly with the Diminished fifth upon each (chromatic) degree of the scale and resolve it.

(b) Referring to Fig. 42 in *H. S.*, for an illustration, write the interval of an Augmented fourth upon each (chromatic) degree of the scale and resolve it to the nearest consonant interval, which will be a Minor sixth. Observe that each voice moves only a half-step and that the letter should change as in the resolution of the Diminished fifth.

KEYBOARD EXERCISES.

Repeat the foregoing written exercises in resolving the Diminished fifth and Augmented fourth upon each chromatic degree of the scale. When doing this be sure to name the notes as they are played, somewhat after this fashion: "The Diminished fifth C \sharp -G resolves by contraction to D-F \sharp , which is a Major third"; The Augmented fourth C-F \sharp resolves by expansion to B-G, which is a Minor Sixth."

COLLATERAL READING.

137. (1) So many of the foundation principles of musical structure and so much of the practical use of musical material are involved in the chord of the Dominant seventh and its derivative chords, that it may well be described as the epitome of structural law. A knowledge of these controlling principles opens the way to a simple and comprehensive understanding of all musical structure—a view of the subject that shows the symmetry and universality of Nature.

In a previous section the structure of the chord of the seventh was discussed. It was there shown that the chord is formed from the triad by the addition of another tone, making a chord of four tones and consisting of alternate letters. There are seven chords of the seventh in each key, for, like the triads, one may be formed upon each note of the scale. The constituent intervals of these various chords of the seventh must vary according to the scale tones which are used (for only scale tones may be used if we would keep the chords strictly in the key), resulting in various forms or kinds of seventh chords. For example, the chord upon the first degree (of a Major key) will be composed of a Major triad and a Major seventh, making a very harsh chord, while the chord upon the second degree will have a Minor triad and a Minor

seventh, giving an entirely different character (but still harsh). Of the chords of the seventh upon the seven different scale tones, the one upon the fifth degree, or Dominant, is found to possess qualities and properties which distinguish it from all others. To properly study the chord, let us review the principles from which the use of the chord is developed. (See *Collateral Reading* in previous lessons.)

(2) The Principle of Resolution. All chords are divided into two great classes, indicating either a state of rest or a state of seeking for rest. These classes are known as consonant and dissonant, and the process of passing from a dissonant to a consonant chord is called "Resolution." It is a universal law of music that dissonant chords shall be "resolved." As all chords of the seventh are dissonant, it will be seen that all must resolve, or proceed, to another chord which shall be consonant.

(3) The Principle of Tendencies. In the structure of music two kinds of tendencies are recognized: (a) Melodic Tendencies, or the tendencies of certain tones of the scale to proceed in definite directions, among which we will remind the reader of the tendency of the seventh degree, or Leading Tone, to progress upward to the Tonic, and of the fourth of the scale to progress downward to the third degree; and (b) Harmonic Tendencies, or the tendencies of certain dissonant intervals to progress in definite directions, of which the more important are the tendency of Augmented intervals to resolve by further expansion into a consonant interval, and the tendency of a Diminished interval to resolve by further contraction.

To illustrate, the interval $\frac{B}{F}$ is an Augmented fourth, which tends to resolve by further expansion, thus, $\frac{B}{F} \xrightarrow{\text{C}} \frac{C}{E}$, while the interval $\frac{F}{B}$ is a Diminished fifth and resolves thus, $\frac{F}{B} \xrightarrow{\text{E}} \frac{E}{C}$

(4) Application of these Principles to Chords of the Seventh. Chords are composite, being made up of intervals, and the intervals are in turn composed of scale tones. Now observe one of the most important principles of

musical structure: when a chord is dissonant, it must be resolved; and when a dissonant chord contains a tone which has a strong tendency either melodic (i.e., as a scale tone) or harmonic, the chord as a whole will be strongly influenced or even controlled by the tendencies of its constituent intervals and tones.

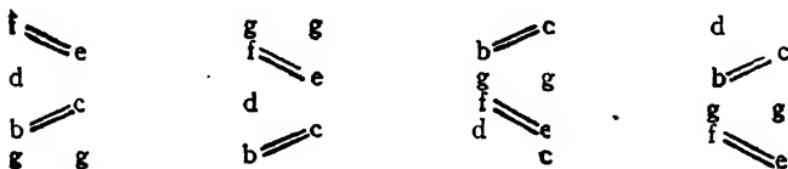
It should be observed that the tendencies in their operation are largely confined to dissonant chords, for a consonant chord never contains a dissonant interval, and is therefore never influenced by harmonic tendencies (only dissonant intervals have harmonic tendencies), and a melodic tendency alone is not sufficiently strong to seriously disturb the quality of rest in a consonant chord. But when a dissonant chord has specific tendencies in its constituent intervals or tones, the general inclination to progress, occasioned by the dissonance, receives a powerful influence in some direction, or toward some particular resolution. Sometimes the inherent tendencies of a chord point in different directions, in which case the stronger tendency rules, while in others all the tendencies agree to force the chord in one given direction, restricting the chord to one, and only one, natural resolution.

(5) Application to the Chord of the Dominant Seventh. If in the light of the above-mentioned principles we examine the various chords of the seventh in the key, we will at once see why the chord upon the fifth degree is so much more powerful than the other chords, through its inherent tendencies, as to be called the Dominant or ruling chord, for it forces its own individuality to the front, pushing its way to the key center by insistently resolving to the Tonic triad. In the accompanying illustration, the roots of the chords upon the successive degrees of the scale are shown by capital letters, and the tendencies of the tone, by the lines at the side of the letters, indicating the direction of the tendency.

b/	c	d	e	f	g	a
g	a	b/	c	d	e	f
e	f	g	a	b	c	d
C	D	E	F	G	A	B
1	2	3	4	5	6	7

Observing the tendencies in this illustration, it will be seen that the only chords having more than one tendency are those upon the fifth and seventh degrees of the scale. It will be shown later that the chord upon the seventh degree is considered and treated as practically identical with that upon the fifth degree; that is, as a form of Dominant harmony. The chord upon the seventh degree will therefore be ignored for the present, leaving the chord upon the fifth degree as the one chord in which several distinct and separate tendencies unite in demanding a specific resolution of the chord.

The melodic tendencies are for the seventh of the scale, B, to progress upward to C, and for the fourth of the scale, F, to progress downward to E. The harmonic tendencies are that the Diminished fifth, B-F, shall resolve by contraction to C-E. It should be particularly noted that in this case the same letters, B and F, are involved in both the melodic and harmonic tendencies, or, in other words, that each tendency reinforces the others in demanding the same resolution. It is not a mere coincidence that this should occur in this chord, for it will be shown that this point is the principle which proclaims that the chords of the Dominant seventh, the Dominant Minor ninth, the Diminished seventh and the three forms of the Augmented sixth chords, as well as the wonderful group of "Attendant Chords," are merely different forms of one and the same chord thought, with similar origin, similar treatment, and similar resolution. It is further most remarkable, and sufficient proof of the truth of the theory, that in every position and inversion of Dominant harmony, and in every one of the above-mentioned forms, the tendencies are infallible in their operation, no exceptions being found under any conditions. In the accompanying illustration is shown the resolution of the Dominant seventh chord in various forms to its Tonic triad. The tendencies are here shown by the oblique lines.



Those letters which have no lines, since they are not tendency notes, may be called neutral tones, and are free to progress either upward or downward to a place in the chord of resolution, or to retain the same note, as may be found desirable.

LESSON 22.

CHORDS OF THE SEVENTH (Cont.)

The Principle of Resolution.

138. In past lessons we have learned that chords are composed of intervals and that intervals give quality to the chords. We learned further that chords composed exclusively of consonant intervals are consonant and require no resolution; while chords containing even one dissonant interval must be classed as dissonant chords, requiring to be resolved. We have learned also that dissonant intervals have a natural tendency toward some particular resolution, described under the head of "Harmonic Tendencies."

It is only a logical deduction from the above to the statement that if the dissonant interval or intervals in a chord are resolved according to their natural tendencies, the chord will be resolved in the most natural manner. Let us apply this to the resolution of the chord of the Dominant seventh by studying carefully *H. S.*, §§155-159, and *Key*, 157-159, including all the keyboard and written exercises given.

Re-Statement of the Foregoing as a Principle.

139. Dependent chords (all chords of the seventh are dependent chords), contrary to the methods universally taught, are not treated in a haphazard or chance way, but follow well defined and perfectly natural principles, which are practically universal in their application. This treatment is the direct outcome of the natural qualities of the chord tones themselves. By "qualities" is meant certain tendencies which are inherent in various scale tones. These tendencies are less pronounced in consonant or independent chords, but are developed or brought into activity by the presence of dissonance.

Resolution of Inversions of the Chords of the Seventh.

STUDY *H. S.*, §173, and *Collateral Reading*, §142.

EXERCISES: *H. S.*, §173.

KEYBOARD EXERCISES.

(a) Take the chord of the Dominant seventh on the root G, place it in turn in all positions and inversions, and resolve each as shown in *H. S.*, §§172-173.

(b) Take in turn every other Dominant seventh chord and treat as above.

140. EAR-TRAINING.

Try to contrast triads with chords of the seventh, noting the incomplete effect of the latter and the restful quality of the former. When working with the different inversions and positions of the chords of the seventh, listen to the *dissonant element* of the Augmented fourth or Diminished fifth and try to feel the direction in which these voices tend to progress. This will help to determine the inversion or position.

Practical Application of the Chords of the Dominant Seventh.

141. Having learned to construct the chords of the Dominant seventh in all keys and to resolve them, we should now learn to put our knowledge into practical use as follows.

Cadences.

STUDY *H. S.*, §190.

WRITTEN EXERCISES.

(a) Write the cadences in six Major and six Minor keys as shown in (a) *H. S.*, Fig. 60.

N.B. If found at all difficult, the above should be done in twelve Major and Minor keys.

(b) Form a perfect cadence in which the Leading Tone of the scale is in the Soprano of the first (or Dominant seventh) chord.

NOTE. After writing one or two examples of exercises (b) read *H. S.*, §164. Perform this exercise in six Major and six Minor keys not using the same keys as in exercises (a) unless exercise (a) was written in all keys.

(c) Write examples of imperfect cadences, not necessarily like (b) in Fig. 60, *H. S.*, but make as many different forms as you can.

(d) Write plagal cadences as illustrated in (c), *H. S.*, Fig. 60, in three Major and three Minor keys. Place the chord in as many positions as possible. Observe that the "amens" sung at the close of hymn tunes are usually only plagal cadences.

KEYBOARD EXERCISES.

Repeat the above exercises in every Major and Minor key, in as many different positions and inversions as possible.

NOTE. The third and seventh of the Dominant seventh chord are called "tendency notes" or "active notes," the progressions of which are fixed. The other two notes (first and fifth of the Dominant seventh chord) have no tendencies—therefore we call them "neutral," or inactive tones—and they have no fixed progression, but may progress either upward or downward, or may remain quiet, whichever will produce the best effect. If the fifth were to go upward in the resolution, it would double the third of the chord; since it is better to double the *Root* of a chord rather than the third, the fifth usually progresses downward in the resolution.

COLLATERAL READING.

142. (1) In summing up the matter, we find that the chord of the Dominant seventh has an almost irresistible inclination to resolve to the Tonic of the key, not because one is the Dominant and the other the Tonic, but because the Dominant chord contains within itself melodic and harmonic tendencies which unite to compel the chord to progress in that direction. We are now better enabled to see the full meaning of the statement that a "chord is composite, being made up of intervals," and to realize that the character and qualities of the intervals go far toward determining the quality and treatment of the chord.

(2) It would be a pleasant digression, at this point, to show how the standard theorists of the past in their teachings and writings, have unconsciously followed the principle of tendencies without being able to formulate the subject. Practically all the rules of part-writing are founded on the cooperation or the opposition of these tendencies and other simple influences; the opposition of these

tendencies explains in a wonderfully simple manner, the numerous so-called exceptions to the rules of harmony, which may be shown not to be exceptions or imperfections in any sense of the word. Further, the study of tendencies, harmonic and melodic, will reveal why certain progressions and certain melodies are sometimes awkward and unsatisfactory when they cannot be called incorrect. In a word, the study of the subject from the point of view here described will take one to the very heart of music, putting reason and principle in the place of instinct. Dr. Jadassohn used to say, "If you will work very hard for many years, you will eventually feel why one note must pass up and another down. I cannot tell you in words." The doctor *felt* but did not *know* the inner principles of tendencies, which are able to explain the subtlest shadings of meanings in music. In this subject there is material for the most serious study by any musician, sufficient to occupy many months, and rich in the reward for earnest thought.

This exposition of what is believed to be the most important single feature of musical theory is necessarily brief and lacking in detail, but the interested student will be able experimentally to test the principles involved through the following exercises, or by reference to *H. S.*

(3) Exercises. (a) Form chords of the Dominant seventh in all keys, both at the keyboard and in writing; trace out the tendency notes and intervals and resolve.

(b) Repeat in all positions and inversions.

143. QUESTIONS.

When you have thoroughly studied Lessons 19-22, write answers to all the questions in *Key*, pp. 81, 83-86. Also rewrite answers to those on pp. 91-92. This will reveal the weak spots.

144. ANSWER TO QUESTION 21, *Key*, p. 83.

This point is a development of the order of sharps or flats in a signature. If we remember that in a signature or scale the sharps or flats always enter in a prescribed order, and that the presence of the second sharp or flat always presupposes (in fact, requires) the presence of the first, we can find a simple and conclusive way of determining the key from this chord alone.

Let us take any chord of the Dominant seventh, for example, G-B-D-F. Now the first sharp to appear in a key is F#, but as we here have F, it shows that the key to which this chord *belongs has not even one sharp* (since, if it had any sharps whatever, F could not be natural). Further, since in the order of flats B \flat is the first, the fact that we here have B \sharp shows that this chord belongs to a key which has not even *one flat*.

Now what key has not even one flat or sharp? The answer is C, and this chord, G-B-D-F, therefore belongs to the key of C alone.

Illustration. E-G \sharp -B-D. The G \sharp shows that this chord belongs to a key having at least three sharps, since G \sharp in a signature implies the presence of F \sharp and C \sharp . The D \sharp shows that the key could not have four sharps, since D would be that fourth sharp. Now what key has three sharps but not four? Ans. A.

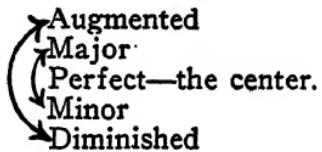
You will observe that the "sharpest" note (leading tone) and the "flattest" note (fourth of the scale) are the significant notes.

Read H. S., §§29, 250.

NOTE ON QUESTION 36, Key, p. 84.

I think of Augmented and Diminished intervals as the "extreme" forms of dissonance, and I think of Major and Minor intervals (when dissonant at all) as "milder" forms. The above is like thinking of Soprano and Bass as the "outer" parts and the Tenor and Alto as "inner" parts. This will appeal to the thinking musician, if he considers the perfect interval as the one most closely approximating the scientifically estimated interval, while the Major form is a trifle larger than what science would require and the Minor a trifle smaller.

Shown in tabulated form it would be somewhat like this:



With the above for a preliminary, which the student may forget if it does not appeal to him (I can make no further explanation, since the point is only a theory or phantasy of my own), we may make this statement:

In the resolution of dissonances, it will be found that in the "extreme" forms **both tones progress**; while in the "milder" or "moderate" forms it is sufficient if **only one tone progresses**. Applying this to the resolution of the Dominant seventh chord, it will be noted that in the interval of the Dim. fifth or Aug. fourth **both tones must progress**, while in the same chord the interval of the Minor seventh requires that **only one tone progress**.

Think this over—you may be interested.

ANSWER TO QUESTION 11, Key, p. 92.

First inversion.

ANSWER TO QUESTION 12, Key, p. 92.

In every inversion there will be consecutive figures or notes upon successive degrees; the upper one of these two is always the root.

LESSON 23.

CHORD OF THE SEVENTH (Cont.)

The Closing Formula.

145. This is a most useful drill for every student, as it can at first be given in exceedingly simple form and afterward elaborated until it becomes very effective for improvisation.

STUDY H. S., §191; also Key, 191.

Illustrations of a closing formula.

FIG. 5.

(a)

(b)

(c)

The student should write and play all these forms in their three positions.

WRITTEN EXERCISES.

Write in four Major keys the closing formula as shown in Fig. 5; (a) above. (Advanced students may also perform the exercises in the Minor keys.)

KEYBOARD EXERCISES.

Following the same form, play the closing formula in every Major key.

A FEW EXAMPLES OF CLOSING FORMULA
WITH INVERSIONS.

FIG. 6. A

This is not a complete ending, since it is not a "perfect cadence."

It might be completed by the addition of another closing formula.

Three parts with Passing Notes.

FIG. 7.

146. Try to form examples in the same or other keys, more or less after the above order. If you find difficulty, try to transpose these into other keys. This will give some help.

NOTE. The chords may be introduced in *any* order, simply remembering to use V₇ just before the final Tonic chord.

IMPORTANT NOTE. In playing the closing formula, it is essential that the final chord should fall upon a strong beat, usually the first beat of the measure, and the next preceding chord—the Dominant seventh—should appear upon (or at least continue through) the last beat of the preceding measure.

147. WRITTEN EXERCISES.

Following illustration (b), Fig. 5 above, write the closing formula in four Major keys. (Advanced students will do the same in the Minor keys.) (N.B. Do not use the same keys as in the previous written exercise.)

KEYBOARD EXERCISES.

Following the above form, play the closing formula in all Major keys.

148. WRITTEN EXERCISES.

Following the illustration (c), Fig. 5, write the closing formula in four Major keys. (Advanced students will do the same in the Minor keys.)

KEYBOARD EXERCISES.

Following the above form, play the closing formula in all Major keys.

149. KEYBOARD EXERCISES.

The student should play both the cadences and the various forms of the closing formula in the form of "Bounding" and "Rocking" chords. An illustration of the "Bounding" chords, and also of the "Rocking" chords as played by the student should be written out complete in one key as part of this lesson.

150. QUESTIONS 1-17, *Key*, pp. 114-115.

LESSON 24.

PART-WRITING—DOM. SEVENTH CHORD.

The Principles of Part-Writing.

151. In previous lessons on part-writing, repeated allusion has been made to the principles described in *H. S.*, §§161-169; and *Key*, pp. 64-67.

STUDY with great care *H. S.*, §§161-169, and *Key*, pp. 64-67. Do not leave it till every point has been thoroughly considered. This matter should be frequently *read over and kept in mind while doing the work in part-writing*. Beyond this it is difficult to give any further specific rules for guidance in the study of part-writing; in the last analysis it will be found that tact and musical feeling are of far greater importance than these comparatively elementary rules.

EXERCISES IN PART-WRITING.

H. S., §160 and §170, 3 ex. Do not write more till you can write these correctly without help from the *Key*.

COLLATERAL READING.

152. (1) Statement. It should be observed that the quality of dissonance is the first element of the principle of resolution. The unrest of the interval is shown in the incompleteness of the chord, forcing it to progress to a consonant chord.

(2) Statement. As the presence of the dissonance is the force which causes the chord to progress, so the specific quality of the interval determines what that movement shall be, or, in other words, determines the resolution. This fact is believed to be the most vital element in the study of theory, the one with the widest application, and unfortunately, the one most neglected. It is shown in the following:

PRINCIPLE OF HARMONIC TENDENCIES.

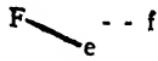
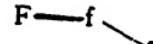
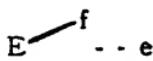
(3) Statement. The most prominent quality of a dissonant interval, after its quality of dissonance, is the unrest or incomplete effect, and the tendency, through this unrest, to progress in certain definite directions.

(4) Statement. As compared with the normal form, the Augmented form is an expression of a size abnormally large, and has a natural tendency toward further expansion into some other and larger interval, rather than to retreat to its normal form. (See *H. S.*, §154). Similarly, the Diminished interval is an expression of abnormal smallness, and tends toward development by contraction into another and smaller interval. Formally stated: (1) Augmented intervals tend toward further expansion; and (2) Diminished intervals tend toward further contraction. E.g., the Augmented fourth, F-B (play it), tends to expand to E-C; while the Diminished fifth, B-F (play it), tends to contract to C-E. The demand for expansion or contraction does not necessarily exact a movement of both tones of the interval, though it frequently does. See *H. S.*, §68. (N.B. It will be well to do again the additional exercises in *Key*, p. 17.)

(5) Statement. In addition to the tendencies of Augmented and Diminished intervals shown in the preceding statement, there are also tendencies on the part of the dissonant Major and Minor intervals: (The only dissonant Major and Minor intervals are the seconds and sevenths.) Of these the Major, representing the larger form, tends to resolve by further expansion, while the Minor, or smaller form tends toward further contraction. For example, play the Minor seventh, C-B_b, when it will be seen to tend toward the interval C-A or D_b-B_b, resolving by contraction. Now play the Major second B_b-C, when it will be seen to tend toward A-C or B_b-D_b, resolving by expansion.

(6) Deduction. A very simple and natural deduction may be drawn from (4)-(5) above, which assists in placing the subject before us in a logical and practical form. Observing the table in §66, (1), it will be noted that while Major and Minor are correlative as are also Augmented and Diminished, the Perfect stands by itself, in the apparent center between Major and Minor. Further, the Perfect interval is the one interval which

is never dissonant, and therefore is not subject to the law of harmonic tendencies. It is but a simple deduction from these facts to consider the Perfect as the central form, dividing the two larger intervals, Major and Augmented, from the two smaller intervals, the Minor and Diminished. Further, observe that those dissonant intervals which are larger than Perfect resolve by expansion, while those which are smaller than Perfect resolve by further contraction. Formally stated, the principle of harmonic tendencies is as follows. (1) All dissonant intervals are subject to the laws of harmonic tendencies, tending either toward expansion or contraction in their resolution. (2) Of these dissonant intervals, the Major and Augmented forms have a natural tendency toward resolution by further expansion, while the Minor and Diminished intervals tend toward resolution by further contraction. Remember that only dissonant intervals possess harmonic tendencies. Further, these tendencies are found to be inherent in the intervals themselves, like the melodic tendencies of scale tones, and not artificially added. Examples of various dissonant intervals are given below, with dashes affixed, indicating the natural progressions of the tones composing the intervals, whether upward, horizontal or downward, in progression to consonant intervals:



Dim. 5th

Aug. 4th

Maj. 7th

Min. 2nd

(7) Observation. Note that in the extreme forms—Diminished and Augmented—both notes of the interval progress, while in the less extreme forms—Major and Minor—it is sufficient if one note progresses while the other remains stationary.

(8) Exercises. (a) Form examples of all the dissonant intervals mentioned in §66, (1), indicating the normal progression of each tone, as shown in (4)-(5) above.

(b) Examine the following chords, finding the dissonant intervals and indicating the proper progression of each tone: G-B-D-F; A-C \sharp -E-G; B-D-F-Ab; G \sharp -B-D-F.
(c) Examine similarly dissonant chords in printed music.

LESSON 25.

PART-WRITING—DOMINANT SEVENTH CHORD (Cont.)

Special Directions, Hints, Etc.

153. You have now had sufficient experience in part-writing to realize that it is not a matter of absolute and inflexible rules which always operate in the same way, but you now begin to find that what is good in one place may not be desirable or even correct in another. You also are wishing to learn by what authority your teacher objects to a progression at one time while allowing it at another. I beg you to believe that it is not a mere whim or a desire to use the red pen. Dr. Jadassohn used to say that these things cannot be taught, but if the student lived long enough, practiced part-writing regularly, and had a musical disposition, he might ultimately learn to *feel* that which could not be expressed in words. Now I am inclined to take issue with him, to a certain extent at least, for I believe the earnest student *can* learn to know definitely when a progression is acceptable and when it is not suited to the occasion.

PART-WRITING is a matter of judgment, of reconciling apparently opposing rules; but the judgment should rest upon a consideration of the nature of the material employed and the objects to be attained. It may be said in passing that many of the older rules of part-writing appear to have been formulated with reference to only the most conventional progressions; and when other conditions arise, it will be found that these rules (which are mostly prohibitions) fail to apply. Further, it may be said that many rules (such as the one regarding the retention of a "common note" in the same voice) are designed merely to guide the first attempts of the student, the rules being reduced to the rank of suggestions without obligation when the student is more experienced; or they may be considered as crutches, to be laid aside at the proper time. For these reasons the student, as he ad-

vances, should not be surprised to see progressions permitted or demanded, which at first were forbidden.

The basis for correct judgment is found, first, in the *nature of the material employed*. By this is meant that there are (a) individual qualities inherent in the different degrees of the scale out of which grows the principle of **Melodic Tendencies**; and (b) the result of combining tones into intervals, out of which grows the principle of **Harmonic Tendencies**; and (c) the **Suggestive Qualities**, various items outlined in *H. S.*, §161, (4)-(8).

To illustrate the thought in (a) and (b) above, it will suffice to say that a hidden fifth would be wrong if so placed in the scale that the melodic tendency of some important note would be violated, while a similar progress in another part of the scale, where the tendencies were not violated would be permitted.

STUDY.

The student will now study again *H. S.*, §§161-169; also *Key*, pp. 64-67, noting particularly that this reconciling of opposing influences is much like the exercise of *tact* in every-day life; it is much easier to use tact than to force our way, regardless of others. So remember that the early rules of part-writing are much like the rules of childhood, to be replaced later by maturer judgment.

EXERCISES IN PART-WRITING.

Write the remaining exercises from the given Basses in *H. S.*, §170.

COLLATERAL READING.

154. THE FUNCTION OF THE EAR IN THEORY.

Perception of Music Through Hearing.

(1) It is a very limited method which confines the study to part-writing. The power to construct and use chords at the keyboard, and to recognize the structure of music from hearing it, are among the most useful and enjoyable features of Theory study. More of cultivation and musicianship for teacher and student may be attained by a short course along these lines than by years of part-writing. It is difficult to give detailed directions

in a limited space for proper training in the art of listening intelligently. The study should be pursued upon the basis of relationship (see *Collateral Reading*, §12, [1].) and one may profitably follow several lines, as for example:

(a) Learning to listen accurately and intelligently to the tones produced in playing. In this respect the violinist and singer have an advantage over the pianist, for they must critically form each tone, whereas the pianist, having the tones "ready-made," is not obliged to concentrate his attention upon this point. He must therefore be educated to do so, not only in his daily study, but also in listening to the performances of others.

(b) Learning to write from dictation by means of a carefully graded course in musical dictation. This should cover the power to distinguish between whole and half-steps, the scales, intervals, chords of all kinds, resolutions, connections, melody, rhythm, modulation and the ornaments of music. Detailed directions may be found in *H. S.* A most practical form of dictation and ear-training may be given in class or club work by having the members follow with the fingers upon a dumb keyboard, or printed representation of the keyboard, the scale notes, intervals and chords sounded upon an instrument by the leader. In addition to the mental pictures formed from hearing, the ability to produce is thus gained by having the fingers in that position upon the keys in which the effect was originally produced. This association of cause and effect is of the highest value. The use of such a representation of the keyboard in the classroom, by which a larger number may also have the same training and actual drill as the individual student at the keyboard, is one of the latest advances in Theory teaching.

(c) Trying to think and sing certain intervals; e.g., sounding C upon the keyboard, try to think how far to the tone F and test by reference to the keyboard. Later extend this to include all possible intervals.

(d) Trying to think how unfamiliar passages of printed music would sound; in other words, mentally reading music.

(e) Trying to achieve absolute pitch. Discover the pitch of voices, bells and whistles; also, think a given pitch, sing it, and then prove by reference to the piano.

For example, as you read this, fix in your mind and voice the pitch of the tone G, as nearly as you can, and prove it at the instrument; similarly, try to find the key of selections heard in the concert-room.

(f) Constantly noting the effect of Major and Minor in keys, chords, intervals and melodies.

(2) At first, in listening, as in early experiences with a foreign language, only single stray bits will be recognized, like a cadence in melody or harmony, or a characteristic rhythmic feature. Continued striving will increase the capacity, until the ability may be achieved to recognize successive chords, to follow a melody, to trace modulations, and to have an understanding of musical form; or even, with the talented few, to mentally picture the appearance of a composition as it looks on the score.

LESSON 26.

PART-WRITING—DOMINANT SEVENTH CHORD (Cont.)

155. SPECIAL NOTE.

Further rules are not necessary in taking up the study of part-writing with inversions. Remember the principles of Tendencies and Individuality of Scale Tones, and the natural or conventional progressions of single tones and chords.

Students frequently misunderstand the figuring of Basses. Read everything written up to this point about figuring of the chords, and also *H. S.*, §199.

PART-WRITING: *H. S.*, §173.

156. EAR-TRAINING.

For several lessons past we have done nothing new with ear-training. It is presumed that the student has been working quietly alone, reaching toward greater facility in recognizing the individual tones of the chord, and in recognizing position and inversion, possibly also in recognizing, or in making a beginning in recognizing the degree of the scale upon which a given chord is placed. Specific direction is scarcely necessary for this work, and if a student has not already tried to do this it should now be undertaken without further delay.

Next we should try to distinguish Dominant seventh chords from triads, chiefly by the absence or the presence of repose, elsewhere described as dissonance or consonance.

157. QUESTIONS.

Answer again questions 14-29, *Key*, pp. 71-72.

158. NOTES ON ADVANCED PART-WRITING.

As you go into more difficult work, you will find it more frequently necessary to double the Third, occasionally to carry the Leading Tone downward and to violate other tendencies, for the following reasons:

(1) The musicians who wrote the exercises did not definitely understand the tendencies as a principle. Dr. Jadassohn, for example, felt the tendencies but did not systematize them.

(2) In general, these tendencies are not always paramount. They are always to be held in mind and observed when there is a choice; but when by observing them we run into awkward progressions or consecutives, or even if the work cannot be made as smooth as otherwise, we should not consider tendencies in the least. In a word, they are to be observed only when nothing is to be lost; therefore do not hesitate to violate a tendency or double the Third of a chord when you think any improvement can be gained thereby which will outweigh the disadvantage of violating the tendency.

LESSON 27.

CADENCES: ELABORATED MELODICALLY.

Improvisation.

159. NOTE. The above high-sounding title means simply that we are to form cadences with melodic passing notes instead of going directly from the Dominant seventh to the Tonic chord. We can elaborate the progressions in the several examples given below.

KEYBOARD EXERCISES.

(a) Following the example given in Fig. 8 (a) below, play the cadence in every Major and Minor key.

(b) Similarly play the cadences in all keys, following in tone the examples shown in Fig. 8 (b) and (c).

SPECIAL NOTE. The student should now read *H. S.*, §§315-322.

NOTE. The student should write three examples in each of the above mentioned forms as part of the lesson, to show that he is doing the work correctly. He may also try to originate other forms, more or less similar to the examples shown below and may write illustrations of them. It is also well to look for examples of cadences in printed music, observing the habits of different composers in this respect, or comparing different styles of music.

FIG. 8.

(b)

Piano music for two measures. The top staff is treble clef, the bottom staff is bass clef. Measure 1: Treble staff has a quarter note followed by a half note. Bass staff has a half note followed by a quarter note. Measure 2: Treble staff has a half note followed by a quarter note. Bass staff has a quarter note followed by a half note.

Ped.

(c)

Piano music for two measures. The top staff is treble clef, the bottom staff is bass clef. Measure 1: Treble staff has a dotted half note followed by a dotted quarter note. Bass staff has a half note followed by a quarter note. Measure 2: Treble staff has a half note followed by a quarter note. Bass staff has a half note followed by a quarter note.

Ped.

LESSON 28.

HARMONIZING THE SCALE

160. NOTE.

So much difficulty has been experienced by beginners in harmonizing the scale that the study in this line has been delayed till now instead of following the order of *H. S.*

The student should realize that any note may belong to three different triads, since it may be the Root of one triad, the Third of another and the Fifth of another. For example, the note C is found in the triad of C-E-G, of A-C-E and of F-A-C.

It should also be remembered that we cannot harmonize the scale by any promiscuous series of chords which contain successive tones to be harmonized, but that a certain natural succession of chords is required. It is very difficult to say what constitutes a natural or conventional series of chords. In one way it appears a little like the feeling of gravitation toward the key center. Please read carefully *H. S.*, §§340, 341; also *Key*, pp. 180-183. The student is also recommended to learn the opening paragraphs of a most valuable little work by Dr. Cutler, "Harmonic Analysis," published by Ditson.

EXERCISES.

Fill out the inner voices in exercises 1, 2, 3, 4, *H. S.*, §135 (a), afterward referring to *Key* as usual. Next complete exercises 5, 6, 7, 8 of the same section; then do the exercises (b), (c), (d) and (f), omitting (e) unless you are experienced in work of this character.

LESSON 29.

SECONDARY CHORDS OF THE SEVENTH.

PART-WRITING.

161. STATEMENT.

There is a natural tendency inherent in music, causing a common chord to progress to the chord whose root is a fifth below or a fourth above. This seems to be a natural characteristic of music, and defies rational explanation. (The writer believes this to be the conventional result of constantly hearing the cadencing close of Dominant to Tonic; but he can hardly pursue the thought here.) When the seventh is added to the common chord, making a dissonance, this tendency to progress to the fifth below or the fourth above becomes more marked, and in the case of the Dominant seventh chord it is even more marked still. Mr. Cutler, in his *Harmonic Analysis*, says that following this thought, the chord upon III progresses naturally to that upon VI, VI to II, and V to I. He says further, that the nearer this progression approaches to Tonic harmony the more gratifying and reposeful the effect, which is another way of saying the natural tendencies have been satisfied.

For the above reason we may expect the secondary chords of the seventh to follow, in a general way, the treatment of the chord of the Dominant seventh. It should be remembered, however, that as the tendencies in the secondary seventh chords are either absent entirely, or are less in agreement with each other, the net result, or tendency to progress to the chord a fourth higher or a fifth lower, is much less pronounced. In fact, these same tendencies, which were so unvarying in the case of the Dominant seventh chord, may even make it very easy for the secondary chords of the seventh to progress in an irregular manner; so do not expect the secondary seventh chords to be as well behaved as those of the Dominant seventh. Do not forget that the Dominant seventh

is the one chord which is like *Nature's Chord*, and that it has qualities and properties possessed by no others.

STUDY H. S., §176-178.

WRITTEN EXERCISES.

Write the scale of G Major. Upon each degree write the chord of the seventh, using only scale tones—no accidentals. Now describe the first or Tonic seventh chord, by naming and describing each and every interval, not only from the root but from the other notes as well, stating in which interval or intervals the chord differs from the chord of the Dominant seventh built upon the same root. Proceed similarly with each secondary seventh chord.

KEYBOARD DRILL. Key, p. 93.

162. RESOLUTIONS.

Statement. As just stated, the resolution of these chords, while often following that of the Dominant seventh chord, is in no way obligatory, since the tendencies do not incline in the same way in all the chords. In fact, the resolution of these chords is more like the progression of the triads, and might well be called "progression" instead of resolution. This brings us to the consideration of the point that in music there are two ways of moving from chord to chord: (1) by simple progression; that is, moving from chord to chord as in connecting triads, either with or without the common note (see H. S., §102 *et seq.*) ; (2) by resolution, in which the tendency notes point the way. (See H. S., §152 *et seq.*) In the first case the progression of the chord is more or less free, as there is usually a choice of possible chords to follow; in the latter case the progression is not free, but is practically forced to one particular chord by the operation of the tendencies. In the secondary seventh chords there are tendencies, of course, but as in very few cases do the tendencies of any two notes agree, there is no real and positive force operating in any one direction. The fact that there is a dissonance forces us to the conclusion that *some* chord must follow, but *which* chord is not so clearly shown, for the tendencies do not unite upon any one. Being therefore more free, the secondary seventh chords may be treated

more like common chords or triads, and may be allowed to progress to any chord of the key, provided that forbidden progressions like consecutive fifths, etc., are not formed, and that the effect is good (if it sounds well it will probably not be wrong, though of course what sounds well to the beginner might not always be the choice of the experienced musician).

COLLATERAL READING.

Read *H. S.*, §§187-188. This will give a little further light upon the subject.

WRITTEN EXERCISES.

Form in turn each secondary seventh chord (the chord upon each degree of the scale except the fifth) in the key of C Maj., and resolve each one to as many different common chords in the key as appear to you to sound well, taking care to avoid forbidden progressions.

KEYBOARD EXERCISES.

Proceed as above, using in turn every other Major key. (Advanced students may do the same with the six Minor keys also.)

PART-WRITING, *H. S.*, §184, fifth ex. only.

LESSON 30.

SECONDARY SEVENTH CHORDS— PART-WRITING (Cont.)

163. Commence with the sixth exercise, *H. S.*, §184. complete the exercises in that section and in §186.

Analytical and Comparative Reviews.

164. NOTE. While we are working steadily forward in part-writing, it is not practicable to develop further new principles, but it is most earnestly suggested that this is the proper time to make a thorough review of all the matter studied up to this point. As you read, try to realize the symmetry and completeness of the laws of music: that they are the laws of nature expressed in this our chosen form. Try also to realize that the same laws are expressed in architecture, in oratory, in painting, sculpture and in every department of life.

STUDY with great care *H. S.*, §201, and *Key*, 201, p. 110. Think out as carefully as you can the relationship of each principle of the science of musical structure, and its application in the work so far as you have studied.

STUDY also *H. S.*, §§202-203.

Complete your review with this lesson, as with the next lesson we shall undertake further work in ear-training.

LESSON 31.

SECONDARY SEVENTH CHORDS IN MINOR-PART-WRITING (Cont.)

165. STUDY *H. S.*, §187 and write the exercises there outlined.

WRITTEN EXERCISES.

Write the chord of the seventh upon the seventh degree of every Major scale, and resolve to the Tonic chord. Write upon two staves, and in four parts.

KEYBOARD EXERCISES.

Repeat the above at the keyboard, using two hands.

PART-WRITING EXERCISES.

H. S., §§188, 189. (Compare with *Key*.)

Ear-training: Dominant Seventh Chords.

166. It is presumed that the student has made some progress in distinguishing the chord of the Dominant seventh from Major or Minor triads. Assuming this to be the case, we will now try to recognize the various positions of the chord of the Dominant seventh. The process is somewhat as follows: Taking as the basis for comparison the individual quality of scale tones described in Lesson 2, it becomes quite simple to distinguish the position of the chord of the seventh, and also the position of the Tonic triad to which it resolves. (Consider the Dominant seventh chord in the following illustrations to be that of G-B-D-F and the Tonic chord to which it resolves, C-E-G.) When the chord of the seventh is in the position of the third for example (B at the top), the Leading Tone of the scale is felt to be prominent, and it will resolve or progress upward a half-step and give a decided feeling of finality when it reaches the Tonic C. Again, if the Dominant

chord is in the position of the fifth (D at the top), we will feel a downward tendency in the upper note, D, and a sense of finality or completeness when it goes downward to the Tonic, C. If, on the contrary, D progresses up to E in the Tonic chord, the incompleteness will be quite apparent. Again, if the Dominant seventh chord be in the position of the seventh (F at the top), the tendency to go down will be apparent, but the result will not be final as it will progress down to the third of the Tonic chord. Again, if the Dominant chord be in the position of the octave (G at the top), it will not move, but will keep the same letter in the resolution. This leaves a sort of "floating" feeling as contrasted with the calm incompleteness of the position of the third of the final chord and the definite close when the final chord is in the position of the octave.

Work out the above thoroughly at the keyboard, listening and comparing the different positions as described, then if necessary write out these different positions and ask a friend to play them in miscellaneous order while you are to judge of results. In all the above, if the bass is used it should invariably be in the direct form. You will find this much less difficult than you anticipate. The author has been delighted to find so simple and comprehensive a way of presenting this subject.

167. QUESTIONS 1-27, *Key*, pp. 111, 113-114.

168. EXERCISES IN HARMONIZING THE SCALE.

(a) *H. S.*, §171;

(b) *H. S.*, §175. (See Illus., *Key*, pp. 184-185.)

LESSON 32.

SECONDARY SEVENTH CHORDS— PART-WRITING (Cont.)

169. PART-WRITING: EXERCISES WITH NON-CADENCING RESOLUTIONS.

After studying *H. S.*, §§192-195, and *Key*, 188, 197, p. 109, proceed with the part-writing exercises in *H. S.*, §196.

Ear-training: Dominant Seventh Chords.

170. TO DISTINGUISH THE DIFFERENT INVERSIONS of the chord of the Dominant seventh and its resolution, use the same course of reasoning for the Bass as was applied to the upper voice in the last lesson on *Ear-training*. It is more difficult than the preceding, for the reason that it is more difficult to distinguish the bass note and to separate it from the other notes of the chord. Those students who have been most faithful in the previous prescribed drill in singing the inner notes (or different notes) of the triads, will be best prepared for this drill. I would suggest that before undertaking the discovery of the inversions by ear it will be most desirable to give careful drill to singing the lowest tones in various inversions of the chords of the Dominant seventh, with or without the assistance of a friend at the piano.

LESSON 33.

SECONDARY SEVENTH CHORDS— PART-WRITING (Cont.)

171. STUDY *Key*, 200, p. 104.

PART-WRITING. *H. S.*, §200 (afterward refer to *Key*).

Analytical and Comparative Review.

172. Study carefully *H. S.*, §201, and *Key*, 201, pp. 110-111. Try to realize how the various terms, such as Major, Minor, Augmented, Diminished, Principle, Signature, Tendency, etc., have a systematic application, and how the principles involved follow like a thread throughout the whole subject. It is this universal application to foundation principles which makes this study so simple, so scientific and so satisfying.

LESSON 34.

INTRODUCTION TO MODULATION.

(NOTE. The following lesson is designed to give facility in handling chords and in developing the consciousness of related keys, rather than to be a systematic presentation of the subject of modulation.)

173. **Definition.** Modulation is the connection of two different keys, or the process of passing from one key to another.

PROCESS. There are a large number of ways by which modulation can be effected. In a later lesson a definite means of modulating from any key to any other will be given. In this lesson it is desired to show how easily we may progress from one key to the key of its Dominant or Sub-dominant. It will be remembered that the Dominant and Sub-dominant are the nearest related keys of any given key; therefore the progression to either of these keys occurs more frequently than to any others. A modulation may be effected very easily where the two keys have a chord in common; that is, a chord which is the same in both keys. In such a case, this common chord may be approached as if it belonged to the first or old key, and may progress as if it belonged to the new key, or key *to* which we modulate.

Modulation to the Dominant.

To illustrate, let us modulate from the key of C to the key of G. We find upon observation that the chord of C is the first degree in the key of C and the fourth degree in the key of G. Therefore, although when first heard, the chord of C suggests, or may be said to belong to, the key of C, it may be followed by the chords in the key of G, since it also belongs to that key. A simple way of modulating would be, therefore, to make use of the Closing Formula, as may be illustrated in the following: (O. K. stands for Old Key, or the key *from* which we modulate, and N. K. for New Key, or key *to* which we modulate.)

FORMULA: (a) O. K. { I
N. K. { IV, I₄, V, I.

Illustrated in notes it would be as follows in the three positions:

FIG. 9.

Key of C { I I₆ V₇ { I I₆ V₇ I
" " G { I₄ V₇ { I I₄ V₇ I

Key of C { I I₆ V₇ I
" " G { I₄ V₇ I

WRITTEN EXERCISES.

Following the examples in Fig. 9, write examples of modulations to the Dominant in any four keys, showing the modulations in all three positions in each key.

KEYBOARD EXERCISES.

(a) Taking in turn every Major key, modulate to the key of the Dominant. Much care should be taken with this exercise; note whether it is easy to find the chords, and with what speed you can perform the modulations in all keys.

(b) Advanced students will repeat the above in all Minor keys.

Modulation to the Sub-Dominant.

174. ILLUSTRATION.

To modulate to the key of F from the key of C. This modulation is also effected by means of a common chord; for the chord of C, which is the first degree of the key of

C, is also the chord upon the fifth degree or Dominant in the key of F. We can therefore perform this modulation by simply adding the Dominant seventh of the new key, creating a cadence in that new key as shown in the illustration below. It should be said of the modulations both to the Dominant and Sub-dominant, that in order to make the modulation correct the rhythmic arrangements of the chords should be as described in *H. S.*, §190.

FIG. 10.



WRITTEN EXERCISES.

Modulate from the Tonic to the Sub-dominant in three positions, in any four Major keys.

KEYBOARD EXERCISES.

(a) Take in turn every Major key; modulate to the key of the Sub-dominant as shown in Fig. 10. Note in detail the ease or difficulty of the operation.

(b) Advanced students will repeat the above in all Minor keys.

Modulation to the Relative Minor.

175. In the preceding modulations the connection was effected by means of a chord common to both keys, followed by some form of the closing formula. Modulation to the relative Minor may be effected similarly, since the Tonic chord in the key of the relative Minor is identical with that upon the sixth degree of the key from which we modulate.

PROCESS. As the Tonic chord of the relative Minor has a note in common with the old Tonic, we may pass directly to the new Tonic triad; but this is not sufficient to "establish" the new key. This should be followed,

therefore, either by the new Dominant seventh chord, which resolves to the new Tonic, as illustrated at (a) below, or by a larger portion of the closing formula, as shown at (b).

NOTE. There are other and smoother ways of modulating to the relative Minor, but at present we are striving for the most simple means and will therefore be satisfied even if the effect is not the most artistic possible.

FIG. 11.

or (b)

Key of C { I VI
" " A { I I V₇ I I VI
 I IV I₆
 V₇ I

WRITTEN EXERCISES.

From the same four keys modulate to the key of the relative Minor, adding the closing formula as before. Each of these modulations should be done in two or more positions and inversions: to do the same thing in several positions and inversions stimulates the inventive ability and you will find this helpful.

KEYBOARD EXERCISES.

Taking in turn every Major key, modulate to the key of the relative Minor. In every case try several inversions and several positions, and observe which is the best effect.

SPECIAL NOTE. In all work in Modulation special pains should be taken to observe the rules of part-writing. The point in which pupils are most likely to violate good taste are: (a) Non-observance of Tendencies (this has been discussed elsewhere); and (b) Failure to treat inverted basses (basses of inverted chords) as melodies and to lead them stepwise instead of skipping as in the ordinary Bass (direct form).

REMARK. If you find by comparing your work with the Key, that you have violated tendencies, wrongly treated the

inverted bass or forced the character of the progressions, you will need a little review of the points mentioned, rather than the study of the complicated forms of modulation which of themselves are sufficiently difficult *after* one has learned the trick of handling voices properly.

STUDY again Lessons 13 and 20. Review with this all the notes on part-writing to be found in the *Key*. Also study over the matter of tendencies and do what you can about applying the points.

176. RELATIVE SHARPNESS OF SCALE TONES.

There is a wonderful application of the principle of "relative sharpness" described in *H. S.*, §29. The principle is this: Comparing the relative sharpness of the different notes of the scale of C, it will be found that the letter B is the sharpest note, represented by five sharps. Now B is the Leading Tone in the scale of C. The next sharpest note is E, with four sharps; the next sharpest is A, with three sharps. Then comes D, with two sharps, G, with one sharp, and C, with no sharps, and finally F, with one flat, or "minus one" sharp.

For the sake of illustration, these different letters in their rank of decreasing number of sharps might be compared to the officers in a regiment of soldiers. The command is held by the highest officer, represented by five sharps, or B. If this highest officer is removed, E will become the highest remaining officer, as it is the next in order. If E is removed, A, with three sharps, takes command, and so on down through the series, D, G, C and F.

Applying this to the scale, let us destroy the rank of B by changing it to B_b, which leaves E as the sharpest note. E is therefore the Leading Tone of the scale, and the scale containing B_b is seen to be the scale of F, of which E is the Leading Tone. If we now lower E to E_b, the next sharpest note is seen to be A, which is the Leading Tone in the key of B_b. Lowering A in turn, we find D, the next sharpest note, to be the Leading Tone in the key of E_b, which key has been developed by flattening the three previous letters as described. Continuing in turn, we find that the keys of A_b, D_b and G_b are successively developed.

It should be seen that the list of keys successively produced above is nothing else than the descending circle of keys. Through this it may be observed that the key of C

epitomizes key relationships in a still more wonderful manner than that described in the statement that the Dominant and the Sub-dominant keys are represented in the tetrachord relationship, and also in a more wonderful manner than that described in §40.

WRITTEN EXERCISE.

Repeat the process, demonstrating each step, in the keys of D, E and B_b Major.

READ *H. S.*, §§29, 250; also *Key*, p. 119.

LESSON 35.

ATTENDANT CHORDS. 1.

Preparation for Modulation and Analysis.

177. NOTE.

The subject of Attendant Chords is one of the most wonderful and beautiful features of these lessons. It is also wonderfully simple although almost universal in its application, for it is a remarkable and logical carrying out of the simple principles of relationship, viz., the relation of Dominant and Tonic. Remember that in this you are not studying something entirely new and strange, but only a wider application of something you already know.

STUDY *H. S.*, §§265-267.

WRITTEN EXERCISES.

(a) To what triad does the chord of the seventh on G resolve? Write the chord of the Dominant seventh upon two staves in direct form and position of the seventh, and resolve it.

(b) Fill out the Dominant seventh chord upon every (chromatic) degree and resolve each to the proper triad, having regard to variety in position and inversion in the various chords.

(c) (As illustrated in *H. S.*, §267.) What is the root of the Dominant seventh chord which shall resolve to the triad of A Major? Write it and resolve.

Similarly, name the roots of the Dominant seventh chord resolved to the triads of D \flat , A \sharp , D \sharp , A \flat , E \sharp . Write them and resolve to both Major and Minor triads.

KEYBOARD EXERCISES.

Repeat all of the above exercises, forming each chord at the keyboard as promptly as possible, and resolving the same. Resolve them also to Minor triads.

178. STUDY AND THINK ABOUT H. S., §§269-270.

N.B. Remember that these two paragraphs contain the essence of one of the greatest principles of music. Read to the end of the chapter, then return to these two sections and think them over carefully again.

STUDY Chapter XII, *Key*, pp. 142-145.

WRITTEN EXERCISES.

Take the key of G; name the root of the [A] of the Dominant. Write the signature of the key of G; write the above [A] chord and resolve it to the Dominant.

Repeat the above process with the chord leading to Super-tonic.

Repeat the above process with the chord leading to Mediant.

Repeat the above process with the chord leading to Sub-dominant.

Repeat the above process with the chord leading to Sub-mediant.

KEYBOARD EXERCISES.

Repeat the above in all Major keys and *carefully note your success*—whether you find it confusing to keep two chords in mind in addition to the key, whether you have difficulty in instantly forming the required chords and resolving them, and whether you find it difficult to do the above in various positions and inversions.

179. WRITTEN EXERCISES: H. S., §274, (a).

KEYBOARD EXERCISES: H. S., §274, (b).

Read *H. S.*, §275.

Think of the tremendous bearing of this principle upon music, and begin right now to find examples in the music which comes under your eye in your daily life. See, further, how this enlargement of the boundaries of the key and the richness in material resulting from this practice exemplify the freedom and richness of modern life and the intellectual and spiritual growth of our time.

180. QUESTIONS 1-13, *Key*, pp. 145-146.

LESSON 36.

MODULATION (Cont.)

Use of Attendant Chords.

181. OBSERVATION.

The method to be here developed might be called a universal method, since by its use it becomes possible to connect any two keys, and this by one and the same method.

STUDY *H. S.*, §§276-280. Read *Key*, 276, p. 147.

REMARKS.

(a) The question may arise, why use any [A] chord at all when there is a common note. It would not be a modulation to connect the chord of C Major with the chord of A_b Major—that would be a jump into the new key and not a modulation. To make a modulation you must at some point or other form a *cadence*, that is, a Dominant seventh chord followed by the Tonic in the new key. Therefore, if you can get into the new key and form a cadence at the same time, a more natural feeling is given than when you jump from one key to the other by means of a common note without any [A] chords whatever.

(b) I never like to use the [A] of the *first* chord in practical work, without the [A] of the second chord for the reason that it tends to return to the old key; so when it *must* be used it is better to put in the second [A] chord as well since the latter progresses naturally to the new key.

(c) The [A] chord of the new key is really essential if either one is to be used. The [A] chord of the old key is really only used to connect the old Tonic with the new [A] chord.

SPECIAL NOTE. Remember that in finding any desired [A] chord we need only to ask ourselves what *would be* the Dominant if the (given) triad were the Tonic of a key. Attendant chords are in their essence Dominant chords, but as they are only transitory, they do not perform the office of a Dominant.

WRITTEN EXERCISES: *H. S.*, §281, (a).

N.B. If it takes you too long to write out the modulation it shows that your methods are not quite complete and that

you must learn to think in the proper way. If you would simply write the two chords you desire to connect upon a sheet of paper, placing the two chords about four inches apart and then write between them their respective [A] chords, the common notes would come to light inside of two minutes. Of course, to do this you must get your [A] chords absolutely correct.

WRITTEN EXERCISES: *H. S.*, §282, (a).

182. STUDY *H. S.*, §283-284.

KEYBOARD EXERCISES.

Return to *H. S.*, §§281-282 and try every exercise there given in as many different inversions and positions as possible, deciding which form is smoothest and most musical.

WRITTEN EXERCISES.

After deciding upon the best form above, write it out in full.

SPECIAL NOTE. Please stop at this point and do not try to make a complete modulation yet. Before proceeding we must see that our tools are in order.

Treatment of Bass in Inverted Chords.

183. When a Bass is in an inversion rather than in the direct form, it is presumed to be so for some melodic reason; that is, so that the Bass when taken alone will sound more or less like a melody. Now as in writing a melody you would prefer a smooth progression to a series of meaningless skips; or as you would not choose an awkward melody note for the sake of filling up the chord, but would instead arrange the chord to suit the melody; so in the Bass progression, when once you take an inversion, you should treat the Bass like a melody and allow it to progress either step-wise or chord-wise (in its own chord). Further, when a Bass is inverted and allowed to progress step-wise, you will find that the harmonic and melodic tendencies come into great prominence and must be considered in order to produce a good effect. For example, the Bass of the chord (see Fig. 12) should progress as at (b), not as at (a). The Bass note, G,

being an inversion, should *not skip* to a new chord, but should progress step-wise. Try the two examples and the difference in effect will appeal to you.

In modulation and improvising, if you take an inversion and find it does not progress smoothly, it is better to discard the inversion and try direct forms; but remember that the use of these inversions, and the smooth progressions of the individual voices produced thereby, are a mark of skill in chord treatment. The practice, though at first difficult, is most excellent and should be continued for a long time, both in writing and at the piano.

FIG. 12.



184. Before taking up the modulations through the Attendant chords, it will be necessary to gain facility in passing from a common chord to that inversion of the Attendant chord, which will permit of the smoothest progression in *every voice*. The following special exercises will aid in this work:

(1) At the keyboard, play the chord of C in direct form and position of the fifth. Now pass to the nearest form of its [A] chord, and then back to the C chord. Now try if some other near inversion will not answer better, or nearly as well.

In doing this exercise it is best to consider the Bass first, noting the nearest possible place in the new chord, for upon this will depend the question of which note to double. Attend first to the Bass, then to the Soprano, and then fill in, trying to avoid doubling undesirable notes —you know which.

(2) Repeat the above in writing.

(3) Take the chord of C in direct form and position of the octave and pass to the nearest form of the [A] chord and back, as before. Try another progression of the Bass, if possible.

- (4) Proceed as before, but take the position of the third.
- (5) Take the chord of C in the first inversion, and try successively the three positions.
- (6) Take the second inversion and proceed as before.
- (7) Write out the complete process as above, with the chord of C.
- (8) Start with each Major and Minor triad in turn, and do the same thing. This will require several hours, and should be spread over several days. You need the continued association with this problem to get the best results. When ease has been secured in this process, you can take up the real modulations far more successfully.

185. WRITTEN EXERCISES.

Harmonize some descending scales using [A] chords, after studying text and examples as given in *Key*, p. 188.

LESSON 37.

CHORD ANALYSIS.

186. We now come to one of the most interesting and profitable features of our study. To be able to analyze the chords in a composition is to know that composition more intimately, to play it more intelligently, and to enjoy it more fully than is otherwise possible. If we know which chord is the key center, and know the natural relations of other chords in the key to this central or Tonic chord; if we know the individual character of the different tones of the scale, and the differing tone colors of musical effects produced by Major, Minor, Diminished and Augmented forms; if we know the conventional progression of chords in a key, leading or tending toward the Tonic chord, and the effects and meanings of the different kinds of cadences; if we know the relations of different keys to one another, and the meanings and uses of consonance and dissonance, or the Resolution of the Dominant principle: if we know these things, we shall be able to read the composer's thought almost like an open book. It is intended from this time forth to divide the work between three branches: (1) Logical exposition of the principles; (2) Construction and other drill; and (3) Analysis.

The methods of chord analysis will be best seen by the illustration and description of the hymn tune, "Old Hundred." (NOTE. The student should write, at the places designated by figures in small type, the Roman numerals required to indicate (1) upon which degree of the scale each chord is formed, and (2) whether Major or Minor, by using the capital letters for Major triads and small letters for Minor triads.)

Analysis of the Hymn.
 (In Notation Below.)

From the signature and the chords (which do not contradict the signature) we may know that this composition is in the key of G Major; therefore write "Key of G" (the capital G to indicate the Major key) at X. The first chord, consisting of the notes G-B-D-G, is seen to be the chord of G, or first degree of the scale of G, since these notes will form the intervals of 1, 3 and 5 from the root G. (See *Collateral Reading*, §75, [2]; also §112 [3]). Observe that the doubling of one note, G, does not affect the character of the triad. In analysis it is a rule to "strike out all duplicates of notes, and to bring the notes within their smallest possible compass," when finding the root of a chord. This chord is a Major triad, and as its root is G, the first degree, write a capital I over the small figure 1. This chord is then the Tonic triad (or common chord), on the first degree in the key of G. It may be further described by saying that it is in the "Direct Form" (that is, it is not inverted, since the root is in the Bass. If this is not clear, the student should refer to *H. S.*, p. 66 *et seq.*; and *Key*, Chapter IV), and in the "position of the octave," since the Soprano or highest note is the root of its octave. Observe that the term *inversion* (or Direct Form) relates to the Bass or lowest note, while *position* refers to the highest note, or Soprano. The second chord is a repetition of the first chord, and may be similarly designated, above the small figure 2, or a short horizontal line may be used instead, to indicate that the previous harmony is continued.

The third chord, by the process of excluding duplicates, placing the notes as near together as possible, and applying the test to the intervals forming 1, 3 and 5, will be seen to be the common chord or triad on the note D, which is the fifth degree of the scale. This chord should be designated by a capital V above the figure 3. Observe that it is in the direct form (root in the Bass) and the position of the Third, since the note which is a third above the root (D) is in the Soprano. Notice that the marking of a chord does not specify the position or inversion, but only its actual root, or note upon which the chord is built.

Proceeding similarly, mark the successive chords as

follows: At 4, a small vi, as the chord is Minor; at 5, a small iii, as this chord is also Minor; at 6, a small vi again; at 7, a capital V; at 8, a capital I. This completes the first line of the words. The next two measures will be quite simple, if it is remembered that a chord is not affected by being spread out over several octaves, since the notes are considered just as if they were within the compass of one octave, or as close together as possible. Observe this particularly at chords 14 and 15.

In the third line of the words, chord 18 is inverted. This is proven by the fact that F \sharp could not be the real root, since if that were the root the other notes would have to be A and C, counting respectively a third and a fifth above F \sharp ; but as the notes given are A and D instead of A and C, some other note must be the actual root. If we try first A and then D as a possible root, we will find that the notes which are a third and a fifth above D correspond with those here given, proving that the root is D, although the lowest note is F \sharp . Now the Roman numeral should represent the real root, and not the note which may happen to be lowest; therefore we must mark this chord with a capital V, and not with a VII, as might be supposed at first glance. Similarly, chord 21 is an inversion of the Tonic triad, I, and must be so marked; and chord 23 is an inversion of the chord on F \sharp , and must therefore be marked with a small vii. (NOTE. This chord is a Diminished triad, and in addition to the Minor sign (the small letters in its numeral), it should have affixed the sign \circ , to show the Diminished quality; viz., vii \circ .)

Chord 31, with the last quarter note in the Alto, presents four different notes, a form at present beyond us. We will therefore mark it by an interrogation point, indicating that it is a subject for later study.

If desired, the position of each chord may be indicated by the figures, 3, 5 and 8 placed over the treble staff, and the direct form or inversions by the letter D, or first or second placed under the bass staff, and below the Roman numeral.

OLD HUNDRED.

X 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

187. EXERCISES.

Analyze a number of simple hymn tunes. Do not yet attempt to analyze piano music, as the many passing-notes and broken chords make it more complicated.

LESSON 38.

CHORD ANALYSIS (Cont.)

188. Below are several hymn tunes for analysis which should be done as illustrated in Lesson 37. All chords which are unfamiliar to the student should be marked with a "?", and in case they have not yet been studied, should be left for later discussion.

In cases where the key is actually changed, either by coming to a pause in the new key, or by continuing in the same through several chords, the change of key should be noted in each case, using a capital letter to distinguish a Major key and a small letter for the Minor key. As soon as the subject of Attendant chords has been thoroughly studied, each Attendant chord should be noted by indicating its relation to its Tonic.

189. ANALYSIS OF PIANO MUSIC.

As we have not yet discussed the subjects of Suspension, Syncopation, and other varieties of structure, there may be a rather large proportion of chords which are not yet clear to the student. All such chords may be marked as before with the "?" and left for future study.

190. PASSING-NOTES.

As these occur so frequently in piano music, the student will carefully read *H. S.*, §§315-320 before proceeding to further study of analysis. Passing-notes may be marked with the initials P. N. The student should carefully distinguish between passing-notes and those melodic passages in which the notes are really parts of the chords, such chord notes not being marked as passing-notes.

191. MATERIAL FOR ANALYSIS.

For the first exercise in analysis, a very simple piano composition may be chosen by the student, preferably one

of the classics, such as one movement from a sonatina, Handel's "Largo," or a simple teaching piece if preferred. The analysis should show: first, the main key and all the subsidiary keys; second, the harmonic structure of every passage; third, passing-notes; and fourth, any irregularities in the chord structure (for example, any chords which cannot be classified as coming from any known root). The subject of *form analysis* will be touched upon later.

The preferred subjects for analysis for this lesson are one or two movements from a Kuhlau or Clementi sonatina, or one movement from the simpler sonatas of Haydn and Mozart. When movements are short, two or three movements should be analyzed.

NOTE FOR THE TEACHER.

Examples of difficult chords which the student is unable to understand should be put in the form of questions to be answered. In every case the chord should be clearly written out, together with the preceding and following chords, with the signature and plenty of space for notes upon the same. Until the student has completed the work up to and including foreign chords, it is impractical to discuss these chords very thoroughly.

MONKLAND.

A - men.

REPOSE.



SILVER STREET.



TALLIS' EVENING HYMN.



LESSON 39.

CHORD OF THE DOMINANT SEVENTH AND NINTH.

(Also called the chord of the Dominant ninth and seventh,
or more simply the "Chord of the Ninth.")

192. STUDY *H. S.*, §§204-206; *Key*, 204.

KEYBOARD EXERCISES.

- (a) Form the chord of the Dominant seventh in the key of G; add to this the Major ninth.
- (b) Form similarly the chord of the Dominant seventh and add the Major ninth in all other Major keys.
- (c) Repeat the foregoing exercises in one process, that is, strike the whole chord at once, without stopping to form the chord of the seventh and then adding the ninth. Continue this practice until facility is gained.

193. WRITTEN EXERCISES.

- (a) Write the chord of the Dominant ninth in the key of G Major. Describe in detail each and every dissonant interval, giving the specific name and the proper resolution of each. (NOTE. A quick way to do this is to write the letters of the interval, one over the other like a chord, then show by a short line pointing upward, downward or horizontally how each note resolves; and then add the letter to which the resolution is made.) Write each dissonant interval separately in this way. Then write the chord as a whole and affix the proper line to each letter showing in which direction each note resolves.

- (b) Repeat the above in the keys of A, E, B, E_b, A_b and D_b Major.

KEYBOARD EXERCISE.

Play the chord of the Dominant ninth and seventh in each and every Major key; while holding the chord, search for each dissonant interval and observe how it should resolve. Take time to do this work carefully and thoughtfully as it has educational value.

DRILL.

Repeat every exercise of the Major keys in every Minor key.

Observe that the ninth, which in the Major key is a Major ninth, will be a Minor ninth in the Minor key. This will change the specific names of some of the dissonant intervals. Observe the changes carefully.

Give special attention to the keyboard work, noting your difficulties for future attention.

Inversions of the Chord of the Dominant Ninth and Seventh.

194. READ *H. S.*, §208.

WRITTEN EXERCISES: *Key*, 208.

KEYBOARD DRILL: *Key*, 208.

Secondary Chords of the Seventh and Ninth.

195. READ *H. S.*, §209.

WRITTEN EXERCISES: *Key*, 209.

KEYBOARD EXERCISES: *Key*, 209.

A Study in Preparation of Dissonances.

196. STUDY *H. S.*, §181; also §§302-303.

WRITTEN EXERCISES.

(a) How would you prepare the chord D-F-A-C-E in the key of C (that is, what chord would you place before it)? Try it at the keyboard and see if the effect is pleasant.

(b) Similarly prepare and resolve other secondary seventh and ninth chords.

197. QUESTIONS 1-4, *Key*, p. 117.

198. EAR-TRAINING.

It is perhaps less difficult to recognize chords of the ninth and seventh, for the reason that they often sound much like suspensions and are treated very similarly; that is, they are usually resolved by letting the highest note proceed one degree downward. Since the ninth chord has five different tones, it also has a very full sound.

If you have a friend who can form chords of the ninth interspersed with triads and chords of the seventh (both secondary and Dominant), it would be well to secure aid at this point. If you have no such friend, write out a series of disconnected triads, seventh chords and ninth chords, and either ask a friend to play them (you could mark the triads, seventh chords and ninth chords with some distinguishing marks so that anyone could tell you whether you hear correctly or not) or simply look at the chords of the ninth, trying to imagine how they sound, and then go to the keyboard and hear if they sound as you think.

Of course you will take every opportunity to exercise the faculty of ear-training when hearing music.

LESSON 40.

CHORD OF THE DIMINISHED SEVENTH.

199. STATEMENT.

In this system, the following chords are shown to be nothing more than slightly varying forms of one and the same harmony, viz., *Dominant* harmony:

- (1) The Dominant Seventh chord;
- (2) The chord of the Dominant Major Ninth;
- (3) The chord of the Dominant Minor Ninth;
- (4) The chord of the Diminished Seventh;
- (5) The chord of the Augmented Six-five-three;
- (6) The chord of the Augmented Six-four-three;
- (7) The chord of the Augmented Six-three.

All these chords will be shown to have the *same root*, the *same dissonant intervals* (varying slightly, of course, with the increased number of notes), the *same tendencies* and the *same resolutions*. In thus proving their similarity the simplicity of the subject is shown in a more striking way than ever before in the whole history of musical theory. In the following lessons the student should not look for new things or principles, but only for the wider application of the principles developed in the study of the chord of the Dominant seventh.

STUDY *H. S.*, §§210, 188, 211.

WRITTEN EXERCISES: *H. S.*, §212.

KEYBOARD EXERCISES: *H. S.*, §212.

200. STUDY *H. S.*, §213.

KEYBOARD EXERCISES: *H. S.*, §214.

201. STUDY *H. S.*, §215. *Key*, 215.

ADDITIONAL EXERCISES: *Key*, 215.

WRITTEN EXERCISES.

Complete the illustration which is commenced in *H. S.*, p. 133, Fig. 68.

Inversions of the Chord of the Diminished Seventh.**202. STUDY *H. S.*, §216.**

WRITTEN EXERCISES: *H. S.*, §216, (a).

KEYBOARD EXERCISES: *H. S.*, §216, (a).

203. STUDY very carefully and repeatedly *H. S.*, §§217-218.

WRITTEN EXERCISES: *H. S.*, §219, (b), (c), (d).

KEYBOARD EXERCISES: *H. S.*, §219, (b), (c), (d).

204. STUDY *H. S.*, §219, (c).

WRITTEN EXERCISES: *H. S.*, §219, (f).

KEYBOARD EXERCISES: *H. S.*, §219, (g).

205. ADDITIONAL EXERCISES: *Key*, 219.

KEYBOARD DRILL: *Key*, 219.

EXERCISES: *Key*, 219.

LESSON 41.

CHORD OF THE DIMINISHED SEVENTH (Cont.)

Study of Roots and Notation.

206. STATEMENT.

The exercise in Lesson 40, calling for the completion of Fig. 68 of *H. S.*, showed that although there are in notation twelve different chords of the Diminished seventh—or even more by enharmonic writing—there are upon the keyboard only three different forms of the chord: namely, those shown under 1, 2 and 3 of each section in Fig. 68. It should now be observed that the difference in these chords, that is, the difference between 1 under (*W*) and 1 under (*X*) is really only different in notation. To understand this more fully, this lesson will be devoted to the study of roots and notation.

STUDY *H. S.*, §§238-243, observing particularly the definition of the word "fundamental."

WRITTEN EXERCISES: *H. S.*, §240; work especially on the Diminished seventh chord.

207. WRITTEN EXERCISES.

(a) Take the chord B-D-F-Ab and re-write the chord so that it shall belong to and resolve in the four different keys to which it may directly belong.

(b) Take the chord C-D#-F#-A and re-write it so that it shall belong to and resolve in the four different keys to which it may belong.

(c) Proceed similarly with the chord of C#-E-G-Bb.

KEYBOARD EXERCISES.

Play the chord B-D-F-Ab, and by (mentally) changing the notation, or what amounts to the same thing, by mentally changing the root, resolve it directly in the four different ways above described.

OBSERVATIONS.

Please work very slowly and carefully upon this lesson, for it is one of the most important subjects in our whole course.

208. STUDY *H. S.*, §§244-248.

WRITTEN EXERCISES: *H. S.*, §248.

STUDY *H. S.*, §§249-251.

To Discover the Key in Which a Foreign
Fundamental Chord is Written.

209. STUDY *H. S.*, §29; also §§18-22 of *How to Modulate*; *H. S.*, §252; and *Key*, 215.

WRITTEN EXERCISES: *H. S.*, §253.

210. STUDY *H. S.*, §§254-257.

211. NOTES AND OBSERVATIONS.

Referring to Lesson 2, the student should read carefully the observations made upon the "Office of the Half-step." We are here to use a remarkable illustration of the same subject. In the chord of the Diminished seventh the notes lie at an equal distance apart (all Minor thirds), and therefore the chord gives us nothing pointing directly to any particular key; in fact it may belong directly to any one of the four keys by simply changing its notation, and in reality may pass almost directly into any one of the twelve Major and twelve Minor keys, as will be described later. Now please observe that if the missing root of any Diminished seventh chord be restored, the chord will no longer contain exclusively Minor triads, for the root will produce, with the next tone above, the interval of a *Major* third. Now remember that between the Dominant and the Leading Tone in any Dominant harmony the third is *Major* (this is accomplished in Minor through the use of the accidental raising of the seventh degree). In the case of the Diminished seventh chord without its root, this *Major* third is missing, and therefore the element of *contrast* with the series of Minor thirds, found in the complete chord, is lacking. Now

observe further that the full chord from which the Diminished chord is derived is, of course, the Minor ninth chord, and that the Minor ninth is naturally just a half-step above the octave from the root; and note also that in the chord of the Diminished seventh, this Minor ninth is present and the root is absent. Therefore if we were to lower the Minor ninth a half-step, the result would be actually to destroy the ninth and to substitute the root for it (which in reality changes the chord of the Diminished seventh to that of the Dominant seventh). Now let us take the chord of the Diminished seventh, B-D-F-Ab; if we either mentally or actually lower any one of these tones a half-step we really introduce the root of the chord, and both the key and the resolution become instantly clear. For example, if we lower B to B_b the chord will belong to and resolve to E_b. If instead we lower D to D_b (it now becomes necessary to enharmonically change B to C_b, to make *alternate letters* or *thirds* from the root), D_b now becomes the Dominant of the key G_b, and the chord will resolve to G_b. Or if we lower F to E (enharmonically change Ab to G[#] to keep alternate letters from E), the chord is seen to belong to the key of A. Or if we lower Ab to G, the chord belongs to the key of C.

KEYBOARD EXERCISES.

(a) Take the chord B-D-F-Ab: "think" the roots as above described and resolve to each of the four keys in turn.

(b) Proceed similarly with the two remaining forms of the chord (C-E_b-G_b-B_{bb} and C[#]-E-G-B_b.)

WRITTEN EXERCISES.

Write all that you have done in the foregoing keyboard exercises.

To Proceed from the Chord of the Diminished Seventh to Any One of the Twelve Major and Twelve Minor Keys.

212. STATEMENT.

You have just learned how the chord of the Diminished seventh may resolve directly to any one of four different keys. Now in resolving the chord, the triad to which it resolves may be considered not only as the Tonic of the

key, but it may also be a Sub-dominant or a Dominant of other keys. In fact it may belong to any key in which that chord could be found. For example, B-D-F-Ab resolves directly to C-E-G; C-E-G is the Tonic of the key of C, Dominant in the key of F and Sub-dominant in the key of G. By applying your knowledge of the closing formula you can therefore resolve the chord B-D-F-Ab to the triad of C Major; and you may either pause there or continue in the closing formula to the chord of either F or G as a Tonic. We now have a group of three keys to which this first form of the chord may be resolved, namely the keys of C, F and G.

Taking the next inversion of the same chord with one letter enharmonically changed (D-F-Ab-C_b), you will realize how this form resolves directly to the triad upon Eb; and the triad of Eb may belong to the key of either Eb, Ab or B_b, as Tonic, Dominant or Sub-dominant, respectively. Continuing in this way, it will be seen that the chord of the Diminished seventh B-D-F-Ab may be resolved to each one of the twelve Major and twelve Minor keys.

WRITTEN EXERCISES.

- (a) Resolve, as above, the chord of the Diminished seventh B-D-F-Ab to each one of the twelve Major and twelve Minor keys.
- (b) Similarly resolve the chord C-E_b-G_b-A to each of the twelve Major and twelve Minor keys.
- (c) Resolve the chord of the Diminished seventh C[#]-E-G-B_b to each of the twelve Major and twelve Minor keys.

LESSON 42.

CHORD OF THE DIMINISHED SEVENTH (Cont.)

213. NOTE TO THE TEACHER.

In this lesson it is advisable to discuss all difficulties. The work is all a matter of principles, and by calling the student's attention to the great principles, you may be enabled to find his difficulties very easily. Make an extended analysis of the Keyboard Drill and note what facility each one is gaining by faithful practice.

PART-WRITING EXERCISES: *H. S.*, §220. (Compare with *Key*.)

214. QUESTIONS 1-15, *Key*, pp. 125-126.

215. HARMONIZING THE SCALE.

If not found too difficult, try to harmonize a few scales in different keys, using any of the chords which have been studied up to this point. See *Key*, p. 186, for examples. (See *H. S.*, §221.)

LESSON 43.

CHORDS OF THE AUGMENTED SIXTH.

We have now reached those very important but largely misunderstood chords, those of the Augmented sixth. If the student would take the trouble to read the treatment of these chords by the older authors such as Jadassohn, Richter, Paul and others, and then carefully study the exposition here given, he would rejoice that he lives in the present age.

The Augmented Six-three Chord.

216. The student is advised to read the demonstrations of these chords with one hand upon the keyboard, playing each form and illustration as given.

STUDY *H. S.*, §§222-225.

EXERCISES: *H. S.*, §225.

The Augmented Six-four-three Chord.

217. STUDY *H. S.*, §226.

EXERCISES: *H. S.*, §226, (a) and (b).

The Augmented Six-five-three Chord.

218. STUDY *H. S.*, §227.

EXERCISES: *H. S.*, §227.

219. STUDY *H. S.*, §228.

SPECIAL NOTE. Review and compare very carefully chapters 5-10, as advised in *H. S.*, §228.

220. PART-WRITING EXERCISES.

Three exercises only, *H. S.*, §232. (Compare with *Key.*)

LESSON 44.

AUGMENTED SIXTH CHORDS (Cont.)

NOTE. The student is earnestly advised to study what is said of the Augmented sixth chord in the author's *How to Modulate*, where it is discussed more fully, and the reasons for its former misunderstanding shown.

Having studied the Attendant chords, and having realized that any Attendant chord may appear in as many forms as there are forms of Dominant harmony (read carefully the N.B., in *H. S.*, end of §228), the pupil will now realize that Attendant chords may also appear in the form of the Augmented sixth chords. It is one of these Attendant chords in the form of the Augmented sixth which confused the older theorists as described below.

Chord of the Augmented Sixth Derived from the Supertonic.

221. STUDY *H. S.*, §§229-230.

EXERCISES: *H. S.*, §231 (a), (b).

PART-WRITING EXERCISES: The last four exercises in *H. S.*, §232.

222. STUDY *H. S.*, §233.

EXERCISES.

Form chords of the Augmented sixth upon the Supertonic, and resolve them to the Tonic six-four as described above, and progress to the Dominant chord.

223. EXERCISES.

Harmonize the scale as required in *H. S.*, §233. See *Key*, p. 186 for example and read text. Study examples as given in *Key*, p. 187.

224. EXERCISES: *H. S.*, §234.

SYNOPSIS.

Write synopsis of this chapter and also of the develop-

ment of the various chords from a fundamental tone, as shown in *H. S.*, §235. Try to do this without reference to the book, after reading that synopsis through once. Read *Key*, 235.

RECAPITULATION: *H. S.*, §235. This is most important for the student who is able to think.

SPECIAL NOTE. Try and realize the contents of *H. S.*, §§236-237, and express your ideas regarding the same in writing. Read *Key*, 235-236, p. 131.

225. QUESTIONS 1-13, *Key*, pp. 132-133.

LESSON 45.

MODULATION (Cont.)

226. The modulations so far made were incomplete, as they fail to give a complete feeling of rest in the new key. This feeling of rest and finality is secured by the addition of the Closing Formula already described, and further illustrated in *H. S.*, §289.

EXERCISES.

(1) Returning to the exercises in modulation, Lessons 34 and 36, complete each modulation there made by the addition of the Closing Formula. This work should be largely done at the keyboard. Three or four examples, showing a variety of positions and inversions, should be written as a part of this lesson.

(2) Modulate from each Major key to the key of its relative Minor, adding the Closing Formula in each case. Write at least six examples.

NOTE. The larger part of the work in modulation should be done at the keyboard, trying each modulation in every possible position and inversion, comparing the different forms until the best and smoothest progression is found.

NOTE TO TEACHERS.

Pupils should write out in notation questions concerning troublesome points, leaving room for notes and corrections. At this time ample drill is required upon each individual point; for this reason this lesson is limited in its extent.

LESSON 46.

MODULATION (Cont.)

227. By reading *H. S.*, §§290-293, we find that each triad excepting that upon the seventh degree may become a door through which the new key may be introduced. The chief door of approach (the front door, so to speak) of the new key is the chord of the Dominant, since it leads directly to the point of rest. We may also, as just said, enter by other doors, using, if desired, one of the triads of the Closing Formula; but this method is less direct, since we need to follow out the Closing Formula to its end in order to fully fix the new key. However, when we wish to hide a modulation so that it will not be too apparent to the listener, one of these less direct chords is often chosen as the means of entering the new key. Careful study of *H. S.*, §§293 and 300, will teach us how to introduce the new key through these different triads.

EXERCISES.

(1) Study *H. S.*, §294. Construct the formula and modulate from every key to every other through the chord of the Dominant seventh to the new key. Try each modulation in its various positions and inversions and write out with the formula at least ten examples. In all cases the Closing Formula should be included.

(2) Modulate from every key to every other, entering the new key through its Sub-dominant triad, and continue from this Sub-dominant through the chords of the Closing Formula to the final Tonic. Write out the formula.

EXAMPLE. Modulate from C to A through the new Sub-dominant. That is, pass from the chord C to the chord of D (Sub-dominant of A) just as if you were modulating to the key of D; but instead of stopping on D, use it as IV of the new key, and continue to V-V_i-I in the key of A. To illustrate:

FIG. 13.

A musical staff in common time. The top staff is in G major (G clef) and the bottom staff is in C major (C clef). The progression consists of six chords: I (G), [A] of IV (D7), IV (D), I₆ (G), V₇ (E7), and I (G). The first three chords are labeled "O. K." under them, while the last three are labeled "N. K." under them.

Repeat this in the other two positions.

(3) Modulate as above from every key to every other, entering the new key through the triad upon the second degree.

(4) Modulate as above, entering the new key through the triad upon the sixth degree.

As it is possible to enter the new key through any one of its different triads, so it is possible to *leave the old key* by any one of its triads; for example, instead of starting directly from the old Tonic, we may first pass to any other triad of the old key (excepting the one upon the seventh degree), and starting from that point, by the use of Attendant chords, enter the new key through any one of its triads. It will thus be seen what an infinite variety in modulation is opened to the composer; and further it will be seen that all these varieties can be formulated and applied in *any* key. To the writer's knowledge this is the first successful attempt to formulate the principles of modulation and apply them on a large scale.

(5) Modulate from each of six keys to other keys, leaving the old key through the chord of the Sub-dominant; next, leave the old key through the triad upon the sixth degree; then leave the old key through the other triads in turn. Write out a few examples of these modulations, giving the formula for modulation in each case, and adding the Closing Formula.

LESSON 47.

MODULATION (Cont.)

228. As we have now studied the chord of the Diminished seventh and the Augmented sixth chords, we should put this knowledge to practical use in modulation. It will be recognized that as forms of Dominant harmony, the chord of the Diminished seventh or any of the chords of the Augmented sixth may be freely used instead of the Dominant seventh chord, wherever an Attendant chord is required. This gives us a still larger scope of material and progression than was available when confining ourselves to the chord of the Dominant seventh alone.

EXERCISES.

(1) After studying *H. S.*, §800, modulate from every key to every other key, using the chord of the Diminished seventh instead of the Dominant seventh chord as Attendant chord. Write ten examples, giving the chords variety of position.

(2) Modulate from every key to every other key, using one of the chords of the Augmented sixth as an Attendant chord. Write ten examples.

229. QUESTIONS 1-16, *Key*, pp. 147-148.

230. OTHER MEANS OF MODULATION.

Several other means of modulation are in common use; e.g., modulation by means of the common chord, without the use of a Dominant seventh or Attendant chord; or by the use of the single common note which is used as a connecting link between two unrelated triads. Both these methods work only in a chance, haphazard way, and it is impossible to formulate their use into a method of procedure which will apply in every case, as we are able to do with the Attendant chords. Other illustrations and further discussion of artistic modulation may be found in the writer's *How to Modulate*, to which the earnest student is referred.

LESSON 48.

ALTERED CHORDS.

231. NOTE.

We have now discussed all of the Fundamental chords and have found that, practically, there is *but one Fundamental chord*, which appears in larger or smaller forms. It should not be imagined, however, that composers confine themselves to these chords alone, for they frequently use combinations of notes which fail to agree in *every* particular with any chord we have studied, and in some cases they may even use combinations of notes not traceable to *any* particular root. The treatment of these altered notes and of the chords in which they are contained is considered in Chapter XI of *H. S.*.

STUDY *H. S.*, §§238-239.

EXERCISES: *H. S.*, §240.

232. STUDY *H. S.*, §§241-252.

EXERCISES: *H. S.*, §253.

233. STUDY *H. S.*, §§254-257.

EXERCISES as required in *H. S.*, §257.

PART-WRITING EXERCISES: the first five exercises in *H. S.*, §258. (Use Key in usual way.)

234. QUESTIONS 1-7, *Key*, p. 140.

LESSON 49.

ALTERED CHORDS (Cont.)

235. PART-WRITING EXERCISES.

The last six exercises in *H. S.*, §258.

236. STUDY *H. S.*, §§259-262.

EXERCISES: *H. S.*, §263.

SPECIAL NOTE. Read *H. S.*, §265 very carefully. Try and realize its tremendous meaning, and that the conclusion reached is only the natural following out and application of the principle of tendencies which was first studied at the beginning of this work.

237. QUESTIONS.

- (1) If a chord consists of three Minor thirds, one above the other, what is the chord?
- (2) What Altered chords are most commonly in use?
- (3) How can you distinguish between Altered chords and Foreign Fundamental chords?
- (4) What is the tendency of Altered chords?
- (5) What is the tendency of the Minor ninth in the chord?
- (6) When a chord might be either a Fundamental chord or an Altered chord, how can its classification be determined?
- (7) Should Altered tones be doubled?
- (8) What do you understand by the Neapolitan Sixth chord?

QUESTIONS 8-20, *Key*, pp. 140-141.

LESSON 50.

PASSING-NOTES.

238. EXERCISES.

(1) Following the example given below, connect the chord of C with the chord of F in three positions, using diatonic Passing-notes in one or more voices.

FIG. 14.

Passing-note.

Chromatic Passing-note.

Passing-note.

- (2) Repeat in various positions and inversions.
- (3) Similarly connect the chord of C with the chord of E Minor in various positions and inversions, using diatonic Passing-notes in one or more voices.
- (4) Continue the above drill, giving six more examples of triad connections, preferably using the simpler triads.
- (5) Connect the triad on C with the triad on G, employing chromatic Passing-notes in one voice.
- (6) Repeat in various positions and inversions.
- (7) Give six more examples of triad connections with chromatic Passing-notes in one voice.

LESSON 51.

PASSING-NOTES (Cont.)

239. STUDY *H. S.*, §§315-316.

EXERCISES.

(a). *H. S.*, §317, (a) and (b).

(b) Try to make an original series of chords (like Closing Formula, for example), and insert as many Passing-notes as possible in all voices. This exercise may be done either by making the straight chords (without Passing-notes) first, and then adding the Passing-notes; or the Passing-notes may enter into the original thought. The composer would work in the latter way.

240. READ *Key*, pp. 180-181.

EXERCISES.

Harmonize the scale as in *H. S.*, §317. Write several examples. (See *Key*, pp. 190-191.)

241. STUDY *H. S.*, §§318-319.

EXERCISES.

(a) Construct an original example of Passing-chords.

(b) Construct a short phrase with Chromatically Altered notes.

242. STUDY *H. S.*, §§320-322.

EXERCISES: *H. S.*, §322.

243. STUDY *H. S.*, §323.

EXERCISES. Construct original examples of Inverted Pedal.

PART-WRITING EXERCISES: *H. S.*, §324. (Compare with *Key*.)

244. STUDY *repeatedly* *H. S.*, §§325-327.

245. QUESTIONS 1-12, *Key*, pp. 163-164.

246. GENERAL RECAPITULATION: *Key*, pp. 164-165.

LESSON 52.

SUSPENSIONS.

247. This study is the beginning of the consideration of how variety of musical structure is secured.

STUDY *H. S.*, §§301-304.

EXERCISES: *H. S.*, §305, (a), (b) and (c).

PART-WRITING: *H. S.*, §306. (Compare with Key.)

LESSON 53.

SUSPENSIONS (Cont.)

248. STUDY *H. S.*, §307.

PART-WRITING EXERCISES: four exercises as in *H. S.*, §308. (Use *Key* as directed.)

249. STUDY *H. S.*, §309.

EXERCISES: *H. S.*, §311.

LESSON 54.

SUSPENSIONS (Cont.)

250. PART-WRITING EXERCISES: last five exercises,
H. S., §308.

251. STUDY *H. S.*, §312.
EXERCISES: *H. S.*, §313.

252. STUDY *H. S.*, §314.
EXERCISES.

Try to find examples of Syncopation; also of Retardation and Anticipation, in printed music.

253. QUESTIONS 1-11, *Key*, p. 159.

LESSON 55.

CHORD ANALYSIS (Cont.)

254. Having now studied the Attendant chords, the chords of the Augmented sixth and the Altered chords, the student is prepared to analyze a large portion of more difficult chords. He has learned that the root of any Fundamental chord may be discovered by means of the principle of the "sharpest note." He has learned that this "sharpest note" is a sure guide in the chords of the Dominant seventh, Diminished seventh, Major and Minor ninth, and the three forms of the Augmented sixth; that therefore, in any change of key the ruling foreign chord (the one usually coming just before a cadence) is sure to reveal the key, since almost unfailingly one of these forms of the Dominant chord will appear. The student has also learned to distinguish between Fundamental chords and Altered chords.

EXERCISES.

The pupil will now analyze the whole of Mendelssohn's "Spring Song," taking as a guide, if he wishes, the illustration in *H. S.*, Fig. 80. He will also analyze selections of his own from Beethoven, including the more difficult portions.

LESSON 56.

MISCELLANEOUS.

255. STUDY carefully *H. S.*, §328.

EXERCISES.

Make examples of Cross Relations, and correct them.

256. STUDY *H. S.*, §329.

EXERCISES.

Make an example of the Tritone and correct it.

257. STUDY *H. S.*, §330.

CONSTRUCT or find examples of right and wrong use of the chord of six-four.

258. STUDY carefully *H. S.*, §331, and apply the point in all later studies of analysis.

259. STUDY *H. S.*, §332.

EXERCISES.

Turn to past part-writing exercises and find all sequential passages in the bass.

PART-WRITING EXERCISES: *H. S.*, §332. (Follow directions about using *Key*.)

260. STUDY *H. S.*, §333.

261. STUDY *H. S.*, §334.

262. STUDY *H. S.*, §335.

EXERCISES.

Advanced students should be able to read a little in C clefs at least. Those intending to do orchestral work will find it indispensable. The student is, therefore, advised to drill himself in this work, first by transposing

hymn tunes into the four clefs, Bass, Tenor, Alto and Soprano, and by reading orchestral music in the same clefs. Study *H. S.*, §336.

263. STUDY *H. S.*, §337.

264. STUDY *H. S.*, §338.

EXERCISES: *H. S.*, §338.

265. STUDY *H. S.*, §339.

EXERCISES: *H. S.*, §339.

266. QUESTIONS 1-11, *Key*, pp. 168-169.

LESSON 57.

HARMONIZING MELODIES.

267. SPECIAL NOTE.

This is a difficult and vitally important section, which must have careful and detailed consideration. Do not be impatient, therefore, in taking one point at a time, nor work rapidly through the exercises, but give thoughtful and musicianly attention to each little point.

STUDY *H. S.*, §340.

STUDY *Key*, pp. 170, 180, 181 (text only).

EXERCISES: *H. S.*, §340. Work three exercises.
(Compare with *Key*.)

268. PROCEED similarly with the rest of the exercises, *H. S.*, §340. Do not consult the *Key* till each group is completed.

269. EXERCISES: *Key*, p. 176, Additional Exercises,
(a) only.

270. QUESTIONS.

(1) To how many chords (triads) in the key may a given tone belong?

(2) To how many triads out of the key may a given tone belong?

(3) In choosing the chords for harmonizing a melody, do we think of anything beside the possible chords to which each tone may belong?

(4) When you see a certain note in the melody, do you unconsciously associate that tone with the triad of the same name? (To illustrate, when you see G in the melody do you feel that it will require the chord of G to harmonize it?)

(5) Can you sing the melody (to be harmonized) without playing it?

(6) Can you mentally sing the melody?
(7) When you mentally (or audibly) sing the melody, can you mentally construct or imagine the chords to go with the melody tones? If not the whole, can you mentally construct shorter series of chords?

271. ANSWERS.

ANSWER TO QUESTION (2).

Almost an indefinite number; it may belong to:

- 3 Major triads in each Major key.
- 3 Minor triads in each Major key.
- 3 Diminished triads in each Major key.
- 2 Major triads in each Minor key.
- 2 Minor triads in each Minor key.
- 2 Diminished triads in each Minor key.
- 1 Augmented triad in each Minor key.

ANSWER TO QUESTION (3).

We should also think of the natural succession of chords and their gravitation toward the Closing Formula.

ANSWER TO QUESTION (4).

To allow a given note to suggest the chord of the same name is a common habit which should be developed as rapidly as possible into more musicianly ways.

LESSON 58.

HARMONIZING MELODIES (Cont.)

272. SPECIAL NOTE.

Make a special note of each difficulty you encounter in preparing this lesson.

STUDY *Key*, pp. 180, 181 (repeated from Lesson 57).

273. STUDY *Key*, pp. 182, 183.

EXERCISES: *H. S.*, §§341, 342 (two exercises only).

274. EXERCISES: *Key*, p. 176, (b).

275. EXERCISES: *Key*, p. 176, (f).

276. *Examine* many hymn tunes with "choice of chords" in mind, noting what the composer did and how you would have treated the given melody had *you* harmonized it.

*Think over and review the principles of key and chord relations as developed in *H. S.*, and the notes in the *Key*, from the beginning of the books.*

Review the subject of Cadences.

277. QUESTIONS.

(1) In mentally singing the melody, can you mentally CONSTRUCT or imagine the cadences?

(2) Can you perceive the divisions of the melody into phrases?

(3) When two harmonizations of a given tone are possible, what should control or influence your choice?

(4) What is the general principle underlying the harmonizing of melodies?

(5) Give as many notes and directions as you can about the choice of chords, without referring again to book or *Key*. (Write this answer after doing the exercises in notation.)

278. ANSWERS.

ANSWER TO QUESTION (1).

This is one of the first points to develop as we study this plan of evolving the harmony and melody together.

ANSWER TO QUESTION (2).

Each phrase, usually of even length, two or four measures, requires some kind of a cadence; this alone will supply a good proportion of the required chords.

ANSWER TO QUESTION (3).

The progression or relations to the preceding and following chords. Also, but less strongly, the principle of variety.

ANSWER TO QUESTION (4).

That of the natural sequence of chords suggested by the Closing Formula; this does not apply rigidly, nor in the first chords of a phrase, but we work gradually toward it for each cadence.

ANSWER TO QUESTION (5).

See *Key*, pp. 182, 183.

LESSON 59.

HARMONIZING MELODIES (Cont.)

279. REVIEW Inversions.

REVIEW Chord Connection.

REVIEW Principles of Part-writing (*Key*, pp. 30-53).

STUDY *Key*, pp. 182, 183 (review).

280. STUDY *Key*, pp. 186-190 (*text only*).

EXERCISES.

(1) *H. S.*, §342 (finish).

(2) *H. S.*, §343 (two examples).

(3) *Key*, p. 176, (c).

(4) *Key*, p. 176, (f).

(5) *Key*, p. 176, (g).

(6) Transpose the harmonization of the Creed into two other keys (written).

(7) Transpose into all other keys at the keyboard.

(8) Harmonize the Creed upon a different tone.
(Your own harmonization.)

281. QUESTIONS.

(1) In harmonizing melodies, do you have any trouble with the details of chord connection, part-writing, inversions, etc.? Note any difficulties in full, and study separately each point.

(2) Can you use the "Half Close" easily at the end of any of the phrases?

(3) Where could it occur?

(4) How can you discover the places in the melody?

(5) Can you use [A] chords easily in harmonizing melodies?

(6) Is there any particular way of deciding about the need of an [A] chord in harmonizing melodies?

(7) Have you any suggestions as to when inversions may be used?

282. ANSWERS.**ANSWER TO QUESTION (3).**

At the close of any phrase excepting the final one, which should be on the Tonic.

ANSWER TO QUESTION (4).

When the end of a phrase, usually two or four measures, occurs upon a note not belonging to the Tonic chord, the cadence cannot be an "Authentic" one, but may be a Half Close, Deceptive, Modulatory, etc. If the melody note in question belongs to the Dominant chord of the key, it may easily suggest a Half Close.

ANSWER TO QUESTION (6).

No other way than to try them; and when the use of key chords alone fails to give the smoothest effect, we should try them. Sometimes the cadences will suggest them.

ANSWER TO QUESTION (7).

Often when harmonizing successive scale tones in the melody, to prevent bad consecutives. The frequent use of inversions is a mark of musicianship.

LESSON 60.

HARMONIZING MELODIES (Cont.)

283. STUDY *H. S.*, §343.

EXERCISES.

As in *H. S.*, §343, write three examples of Single Chants and three examples of Double Chants.

284. STUDY *H. S.*, §345.

EXERCISE.

Following the suggestions here given, write examples of two short hymn tunes and of two short phrases written in free form for the piano. Any of Mendelssohn's "Songs without Words," Schumann's "Traumerei," or a slow movement from a sonatina will serve as an illustration.

285. STUDY *H. S.*, §§346-349.

LESSON 61.

ANALYSIS AND FORM.

286. As the study of analysis and form is a separate branch, we merely touch upon the subject in *H. S.*, in order to awaken an interest in this most necessary and interesting side of the work.

Study carefully and thoughtfully H. S., pp. 224-235.

EXERCISES, as suggested and outlined in *H. S.*, pp. 224-235.

The author has endeavored in this volume to lighten the work of the busy teacher, by putting into graded lesson form the contents of *Harmony Simplified*. If the teacher, with its help, shall be enabled to present the subject of Harmony in a simple and practical form; if the student shall be stimulated to an ever-increasing interest in the subject, and to further study and practice along the lines laid out; if the earnest seeker after a thorough knowledge of Harmony shall gain a clearer vision of the fundamental principles and of their relation to universal laws; if modern Harmony study shall be simplified, broadened and intensified, and musical standards raised continually higher: then the purpose of this volume will have been attained.

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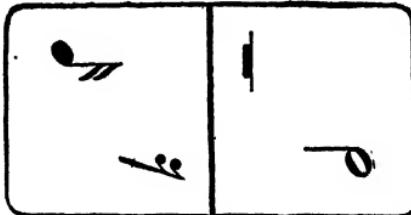
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